

PROCESSOR

Products, News & Information Data Centers Can Trust. Since 1979

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COVER FOCUS

Solutions To Tough IT Challenges

How do you improve your organization's data security? Be "green" with minimal capital investment? We provide answers to those questions and more.

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Answers To Top IT Questions

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Data Lockdown

Key Strategies To Improve The Safety Of Customer & Employee Data

by Elizabeth Millard

• • •

LOCKING DOWN customer and employee data can be rife with challenges, but proper security measures are imperative and often involve multiple layers of defenses and processes. Here's a look at what you need to know about protecting your valuable data.

Security Challenges

Securing the entire data pathway is a difficult task because all data is seen by someone, notes Christopher Cain, director of software development at AppRiver (www.appriver.com), a provider of exchange hosting.

"In order for a business to comply with today's strict regulations, the entire pathway for data—from secure storage to the point of dissemination—must be secured," he

Key Points

- Email should be put on an end-to-end encryption system rather than a system that only encrypts email in transit.
- Putting stronger audit capability on highly privileged users can lessen unnecessary monitoring of lower-level users.
- Compliance in such industries as health care drive the need for greater data security but can also be an opportunity to improve systems.



says. "It is no longer adequate for organizations to simply store customer and employee data in an encrypted form on a secure server with good access policies in place."

An important aspect of securing customer and employee data is making sure that email controls are in place, Cain says,

because emails can include financial data in spreadsheets or personal information transferred from HR to health departments, for example.

Ensuring that transmission of data is encrypted is not enough, he believes,
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When Do You Need N+1?

Buying Spares Viable Only For Some

by Carmi Levy

• • •

IN TODAY'S 24/7/365 ECONOMY, data center managers are increasingly challenged to maximize uptime without blowing the budget. N+1, which is defined as having a spare component on hand in case the main item breaks or requires service, has long been used by companies to minimize the duration and impact of both planned and unplanned outages.

As small and midsize enterprises shift to more sophisticated data center architectures, knowing whether to incorporate N+1 into their operational plan becomes a crucial decision point. Even if they decide N+1 makes sense, buying doubles of everything simply isn't feasible. Knowing which components should be bought and stored as spares—and which ones can be left alone—is critical to balancing availability with budget.

"A lot of companies actually don't know what kind of spares they should have because they don't do an adequate job of assessing the mission criticality of a particular device," says Jack Gold, president and principal analyst of J.Gold Associates (www.jgoldassociates.com). "If you've got a number of redundant servers and you can keep going if one of them fails, it may or may not be a big deal. But if you're a
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Gartner Foresees Rebounding Global Chip Revenues

Recent research from Gartner predicts that revenue from global semiconductor sales is expected to reach \$226 billion for 2009, which would mark an 11.4% decrease from 2008 when revenue totaled \$255 billion. Despite the decrease, the total is actually an improvement from the Q3 2009 projections Gartner made, forecasting revenue would decline at a 17% clip. Gartner predicts that revenue for 2010 will climb 13% from 2009 to reach 2008’s total of \$255 billion. Leading the semiconductor recovery are PCs, which have performed better than expected; in fact, Gartner changed its previous predictions of double-digit declines for PCs to a forecast of low-single-digit declines.

Survey Predicts Increased SaaS-Based Email Functions

Sendmail and Osterman Research have revealed the results of an October-conducted study suggesting that “security dominates the SaaS market today” and that, in the future, organizations are likely to outsource such email security functions as antispam, bulk email, antivirus, and anti-malware. Reasons that more companies aren’t currently outsourcing functions varied from concerns over privacy, retrieving outsourced data, regulatory compliance issues, and a fear of loss of control. In actuality, according to Michael Osterman, president of Osterman Research, “moving commoditized services to the cloud provides enterprises with more choice, agility, control, and protection.” Osterman says 20% or more of those surveyed report they’re outsourcing some email functions to a SaaS solution, but the number will rise to 38% in two years. Elsewhere, 40% of companies surveyed are currently outsourcing some part of their email infrastructures, with antispam (64%) and bulk email (46%) being the most common.

Hearing Set For Google Settlement Case

The final hearing date for the revised legal settlement between the Authors Guild and the Association for American Publishers vs. Google has been set for Feb. 18, 2010. The settlement proposal stems from lawsuits filed by the two parties in 2005, accusing Google of copyright infringement. According to the lawsuits, the Internet search company scanned books to digitize a full copy online without getting the copyright owner’s permission for each title. Google reached a settlement with the companies in the fall of last year; however, strong criticism of the settlement fueled the revision. The proposed revision seeks longer time for authors to claim compensation and a larger percentage of the sale.

Dell Reports Declining Earnings

Dell’s fiscal third quarter of 2010 showed mostly declining figures. The company reported its total revenue as \$12.9 billion, down 15% since the third fiscal quarter of 2009. The company also reported its total income as \$337 million, down 54% since the third fiscal quarter of 2009. Dell has been trying to decrease costs and build up its enterprise after the company’s deep investment in business costumers suffered during the economic downturn of the past year.

Employee Retention A Major Concern For CIOs

Recent research from Robert Half Technology indicates that although IT employees were willing to ride out the economic downturn with their current employers, many may be looking to find new employment once the economy stabilizes. According to the firm’s survey of 1,400 CIOs in the United States, 43% of those surveyed indicated that employee retention will be their top priority in the next year. Moreover, 21% intend to provide additional training and professional development for their IT workers, many of

whom have endured longer working hours, reduced compensation, and/or fewer benefits during the recession.

IBM Simulates Brain Function

Recent findings from IBM Research – Almaden show that it takes 147,456 processors and 144TB of RAM to surpass the brainpower of a single house cat. The research group recently staged an almost real-time cortical simulation of the brain using Lawrence Livermore National Lab’s Dawn Blue Gene/P supercomputer. Along with the new BlueMatter brain function mapping algorithm IBM developed with Stanford University, the simulation provides insight into the way the brain represents and processes vast amounts of information in such a compact, low-power structure. The DARPA-funded research aims to produce a derivative chip.

AOL To Cut Workforce

Not long after announcing that it would spin off from Time Warner effective Dec. 9, AOL announced plans to cut its workforce. The cuts will affect about 2,500 employees—about a third of the company’s total employee count. AOL says the layoffs will save the company about \$300 million per year. The company has asked for volunteers effective Dec. 4 but will implement an involuntary layoff system if needed. According to AOL’s filing with the United States Securities and Exchange Commission, AOL expects to incur restructuring charges of up to \$200 million, most between the Dec. 9 spin-off date and the first half of next year.

Cisco Raises Tandberg Offer

Cisco says it’s now willing to pay \$3.41 billion, or 19 billion Norwegian crowns, for videoconferencing equipment maker Tandberg. The new bid, which Cisco says will be its last, is 10% higher than Cisco’s original offering price of \$3 billion, which it made on Oct. 1. Industry insiders expect Tandberg’s board and shareholders to approve the higher offer. At least 90% of Tandberg’s shareholders need to approve the deal; about 40% have already done so. Tandberg’s board has also approved of the new price.

Report Offers Look Inside Security Product Testing

A report from ICSA Labs, a division of Verizon Business, shows that most security products do not pass initial certification testing and that a number of products are eventually dropped and never pass certification. ICSA has been testing and certifying security products for 20 years. According to the “ICSA Labs Product Assurance Report,” only 4% of all security programs attain certification in the first cycle of testing, and 82% eventually attain certification after an average of two to four testing cycles. Even after certification, manufacturers often have a difficult time maintaining product certifications, with 36% of previously certified security products showing violations during post-certification testing and 13% of products eventually losing certification.

Ciena Acquires Nortel’s Metro Ethernet Business

After defeating Nokia Siemens Networks and One Equity Partners with a \$769 million bid, Ciena will acquire the optical networking and carrier Ethernet assets of Nortel Networks’ Metro Ethernet networks business. Nortel, which filed for bankruptcy protection in January, is selling its Metro Ethernet business to Ciena for \$530 million in cash and \$239 million in convertible notes. Nortel’s Metro Ethernet business has a large customer base, including customers such as AT&T, Verizon, and Comcast. As part of the deal, Ciena will acquire 2,000 Nortel employees, which will almost double the amount of workers Ciena currently employs. The deal is expected to close in Q1 2010.



Survey: Business Associates Not Ready For Breach Rules

A new survey has found that business associates who handle private patient information for healthcare providers are unprepared to meet the data breach obligations included in the Health Information Technology for Economic and Clinical Health Act. For example, one-third of business associates, such as those in billing, claims processing, and practice management, were not aware they needed to comply with HIPAA regulations; comparatively, only 13% of healthcare providers were unaware. The study, conducted by HIMSS (Healthcare Information and Management Systems Society) Analytics and commissioned by security vendor ID Experts, found that 85% of healthcare providers plan to take steps to protect data held by business associates.

Legislation Would Ban P2P Use By Federal Employees

A House committee chairman proposed legislation that would ban federal employees from using public peer-to-peer networks such as Limewire and set policies for employees who remotely access government networks. Under the Secure Federal File Sharing Act, federal agencies will have to set P2P use policies for employees and contractors and create security systems to detect and remove prohibited software. The proposal comes weeks after a P2P security breach leaked details on dozens of House Ethics Committee investigations. Other P2P security breaches in the past year leaked documents about the president’s helicopter, the location of a Secret Service safe house for the first family, and financial information belonging to Supreme Court Justice Stephen G. Breyer.

Report: Countries Preparing For Cyberwar

According to a report released by McAfee, major countries are engaged in a “Cyber Cold War” and are amassing cyberweapons and testing networks in preparation for using the Internet to conduct war. China, France, Israel, Russia, and the United States have developed “advanced offensive cyber capabilities,” while the UK, Germany, and North Korea are known to be developing their own capabilities, as well. The fifth annual Virtual Criminology report finds that although there’s no common definition of cyberwar, “banking and finance, electricity grids, oil and gas refineries and pipelines, water and sanitation utilities, and telecommunications systems are all targets for cyber attacks in future wars.”

State Of The PC Market

Gartner’s latest data about PC industry performance shows that global PC shipments will be up by 2.8% for the year, which is in stark contrast to the 11.9% decline Gartner predicted for PC shipments at the beginning of the year. Desktop PC shipments are selling sluggishly—Gartner predicts a 9% drop in shipments for 2009—but strong sales of netbooks and mobile PCs in the third quarter more than wipe out the desktop downward spiral. Gartner expects mobile PCs to ship somewhere in the neighborhood of 162 million units by the end of 2009, which represents a 15.4% increase compared to last year. Although unit sales are up, Gartner logically expects overall PC revenues to drop by 11% from last year’s levels due to the lower average selling prices of netbooks compared to desktop PCs. Gartner is also reporting that Windows 7 seems unlikely to impact PC shipments for the year. For next year, Gartner expects PC shipments to be up by 12.6% compared to this year, and revenues will also see a slight 2.6% bump, as well.



Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers? Consider joining a group of data center professionals. If you have an event you’d like listed, please send an email to feedback@processor.com.

- DECEMBER -
AITP Garden State
Dec. 8
www.aitp.org/organization/chapters/chapterhome.jsp?chapter=21

AITP Washington, D.C.
Dec. 8, 6:30 p.m.
Alfio’s Restaurant
4515 Willard Ave.
Chevy Chase, Md.
aitpwashdc.ning.com

ISSA New England
Dec. 8
www.issa-ne.org

PASS Wisconsin SQL Server User Group
Dec. 8
Green Bay, Wis.
wisconsin.sqlpass.org

AFCOM Central Ohio
Dec. 9, 11:30 a.m.
Columbus, Ohio
www.afcomcentralohio.org

AFCOM Greater Philadelphia, New Jersey, and Delaware
Dec. 10
www.afcommidlantic.com

Arizona Technical Council
Dec. 10
Phoenix, Ariz.
www.aztechcouncil.org

Boston Society for Information Management
Dec. 10
www.simnet.org/Chapters/Northeast/Boston/tabid/78/Default.aspx

SQL Server Society Of Las Vegas
Dec. 10, 6 p.m.
Henderson, Nev.
sssolv.com

AITP Pittsburgh
Dec. 14, 6 p.m.
Sokol Club-Southside
2912 E. Carson St.
Pittsburgh, Pa.
www.aitp-pgh.org

ISSA St. Louis Chapter
Dec. 15
St. Louis, Mo.
stl.issa.org

Oklahoma City AITP Chapter
Dec. 15
Oklahoma City, Okla.
www.aitp.org/organization/chapters/chapterhome.jsp?chapter=40

AITP Northeastern Wisconsin Chapter
Dec. 16, 4:15 p.m.
Holiday Inn Select
150 S. Nicolet Road
Appleton, Wis.
new.aitp.org

ISSA New Jersey
Dec. 16
nj.issa.org

ISSA Oklahoma City
Dec. 16
Spaghetti Warehouse
101 E. Sheridan Ave.
Oklahoma City, Okla.
www.issa-okc.org

AITP Greater Boston
Dec. 17
www.bostonaitp.org
AITP Omaha
Dec. 17, 5:30 p.m.
Seraph Corp.
Omaha, Neb.
www.aitpomaha.org

PRODUCT RELEASES

The *Processor* Product Releases section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up-to-date with what's new on the market and to find products you need.

Manufacturers:
Do you have a new product that data center/IT managers would be interested in learning about?
Send your press release or product information to press@processor.com.

CLIENTS

■ Attachmate FileXpress

Attachmate introduced Attachmate FileXpress, a family of products designed for the MFT (managed file transfer) industry. The products also assist users with delivering large files electronically with any platform or program. Secure file exchanges over the Web are made possible with FileXpress as well as B2B integration with partners, vendors, suppliers, and customers. This is all made possible thanks to FileXpress' tough data security regulations through strong encryption, authentication, auditing, and role-based administration functionalities. FileXpress also enables users to move files within the data center using the infrastructure that supports several platforms, such as Windows, Unix, Linux, and IBM z/OS.

■ EMC My Documentum

EMC released its My Documentum family of products, which lets users access EMC Documentum enterprise content management features from Microsoft Outlook, Microsoft Windows Explorer, and Microsoft SharePoint applications. EMC My Documentum for Outlook lets users organize, archive, locate, and manage critical emails and attachments in the Documentum repository. EMC My Documentum for SharePoint lets users access content that is being managed within a Documentum repository through the SharePoint user interface. EMC My Documentum for Desktop lets users access, save, share, and



secure content in the Documentum repository through Windows Explorer, Apple Macintosh Finder, and Microsoft Office applications. EMC My Documentum Offline is a utility that lets mobile workers access the latest versions of content and edit, add to, delete, and subscribe to it while offline and then sync all updates upon reconnecting.

■ Kyocera Mita America & API Cryptek MFP Authentication & Security Solution

Kyocera Mita America and API Cryptek announced that certain Kyocera MFPs now offer complete device locking security abilities via API Cryptek's Netgard MFD card reader appliance. The move means that users who want to access such functions as copy, scan, email, and fax chores will need to authenticate their U.S. Department of Defense-issued CAC/PIV Card (Common Access Card/Personal Identity Verification) and PIN before using the Netgard MFD. The ability prevents unauthorized users from obtaining privileged materials or accessing network resources. Among other things, the Netgard MFD supports the Homeland Security Presidential Directive, which is a mandate for federal agencies to implement enhanced security measures to safeguard network-enabled devices.

■ Lenovo ThinkCentre A70z, A58e

Lenovo has added its first all-in-one desktop to its ThinkCentre enterprise desktop lineup with the ThinkCentre A70z, which Lenovo says saves 70% more space vs. standard desktops. Aimed at SMEs and

large corporations, the A70z (starts at \$499) ships with Windows 7, a 19-inch touchscreen widescreen monitor, a DVD



burner, six USB ports, two speakers, up to 500GB of storage, a choice of Intel Core 2 Duo on through Celeron dual-core processors, and optional Wi-Fi and Web cam. Lenovo also released the full tower ThinkCentre A58e (starts at \$349), which includes an Intel Core 2 Duo or Celeron CPU, Windows 7, up to 320GB of storage, up to 2GB of RAM, and a DVD burner. Lenovo says by implementing its Power Manager, enterprises can save up to 69% on power annually on the A58e.

■ Motorola MC3100 Series

Motorola released a series of mobile computers under the MC3100 product line that it says provides industry-leading data capture options, enterprise-class motion sensing abilities, and the most versatile form factor for midrange mobile computing available. Beyond offering enterprise mobile users one cost-effective product



for converged voice and data communications, Motorola says the MC3100 uses the ergonomic, lightweight, and rugged design of the MC3000 series. The MC3100 series is designed for key-based and touchscreen applications and is aimed at helping retailers, government agencies, and distribution centers streamline business processes, improve productivity, and improve customer service and satisfaction. Among the MC3100 series features are the use of Motorola's MAX sensor motion-sensing applications, the new Mobility Platform Architecture 2.0, MAX Secure wireless security, and the Mobility Services Platform.

■ Smith Micro Software Stuffit Deluxe 2010 For Windows

Smith Micro Software released StuffIt Deluxe 2010 for Windows. The 2010 version includes StuffIt Connect, a cloud-based file transfer service that lets users share large files without the hassle of email attachments or FTP. StuffIt Deluxe 2010 includes compression methods for image files, audio files, PDFs, and Microsoft Office documents. StuffIt Deluxe 2010



smithmicro software

automatically redirects large files to the new StuffIt Connect Web service. Recipients receive invitations via email that contain a link to the hosted file, letting them download the shared files quickly and easily. StuffIt Connect protects files with 512-bit RC4 encryption technology and offers the ability to protect download links with password access.

■ Sun Microsystems Sun Ray Software 5

Sun Microsystems released Sun Ray Software 5, which is designed to improve the virtual desktop experience and help increase data center efficiency. Sun Ray Software 5 can deliver a virtual Windows, Linux, or Solaris OS desktop to most any client device, including Windows PCs and Sun Ray thin clients. Version 5 includes the Sun Desktop Access Client, which provides end users with the flexibility to utilize their existing Windows laptops or desktop PCs (as an alternative to Sun Ray thin clients) to access data and applications in a centralized virtual desktop environment. Sun Ray Software 5 also features improved Adobe Flash performance, enabling customers to experience accelerated Adobe Flash content with synchronized audio and video on Sun Ray thin clients and Sun Desktop Access Client-enabled PCs.

■ Wyse Technology VMware View 4 & PCoIP Support, Wyse P20

Wyse Technology announced solutions that will support VMware View 4 and its PCoIP (PC-over-IP) display protocol. Wyse is offering support for PCoIP in its existing thin client devices, new devices, and a new zero client—the Wyse P20. The Wyse P20 is designed to bring the premiere PCoIP experience to virtualization users, whether operating from a data center, private cloud, or public cloud. Wyse is launching support for VMware View 4 with integrated support for PCoIP across its line of existing thin clients, including immediate support for Wyse thin clients based on Microsoft Windows XP Embedded and Windows Embedded Standard. Wyse will also soon support PCoIP on its line of Linux and segment-leading Wyse ThinOS clients.

MESSAGING & TELEPHONY

■ Intermedia Hosted Exchange 2010 Service

Intermedia announced it is offering the first hosted Exchange 2010 service, which adds BlackBerry support and free migration from legacy versions of Exchange. The hosted service is available to direct customers and affiliates. Features include an infrastructure capable of including four data centers and secured email and speed routing. Users of the hosted service also have full control over the Exchange environment, which allows them to delegate complex Exchange administration to non-technical staff. Intermedia also boasts an

average hold time of 40 seconds or less for technical support.

NETWORKING & VPN

■ AirMagnet Planner For 802.11n

AirMagnet announced AirMagnet Planner for 802.11n, a program introduced to help enterprises build an 802.11n Wi-Fi network. The solution helps network professionals through critical stages, including the migration process, WLAN performance, and deployment validation. AirMagnet Planner for 802.11n helps network professionals by providing a clear migration plan, along with automatic migration guidance for current legacy networks. It simulates WLAN performance before implementation so users can view coverage maps, including Operating mode, Channel width, and Maximum Transmit MCS rate. Because AirMagnet Planner is built into AirMagnet Survey PRO, users are able to validate results from the predictions rather than the actual results after the deployment.

■ Berkeley Varitronics Systems Yellowjacket b/a/n/g Tablet Analyzer

BVS (Berkeley Varitronics Systems) announced it has updated its Yellowjacket b/a/n/g Tablet Analyzer for 802.11n Wi-Fi networks following the recent ratification of the 802.11n wireless specification. The company says the Yellowjacket b/a/n/g Tablet Analyzer, as well as its Swarm mapping software, is able to provide comprehensive Wi-Fi measurements, thus making it a single tool that IT managers and security personnel can use for such purposes.

■ Crescendo Networks AppBeat DC CN-7790

Crescendo Networks released its AppBeat DC CN-7790 application delivery controller. The controller is designed for large Web businesses and hosting providers and performs at 10Gbps thanks to a proprietary hardware foundation aimed at eliminating performance degradation and resource conflicts. The 10Gbps throughput includes continual 6Gbps compression and 4Gbps SSL throughput, a 70% enhancement in Web site response times, an up to 50% reduction in server requirements, an 85% reduction in bandwidth usage, and a 30% cut in energy consumption. Crescendo says the AppBeat's platform benefits from using a massive parallel processing array that provides separate resources for each feature, making it possible to offload repetitive tasks to deliver applications quickly.

■ EMC VMware View 4 Supporting Products

EMC introduced several products designed to leverage the power of VMware's recently announced VMware View 4 desktop virtualization solution to deliver a complete desktop as a managed service solution. EMC Storage Infrastructure for VMware View lets users deploy hosted virtual desktops that are more efficient, less expensive to maintain, and offer better availability than traditional desktops. The RSA Solution for VMware View works with VMware's offering to deliver better management and more secure virtualized desktops. RSA SecurBook for VMware View provides detailed guidance for deploying and administering key security controls in hosted virtual desktop environments. EMC also announced new VMware View 4 and EMC Virtual Desktop Infrastructure consulting services.

PRODUCT RELEASES

■ Fujitsu Frontech XG2600

Fujitsu Frontech unveiled the latest addition to its family of XG Layer 2 Ethernet networking switching solutions, the XG2600. A 10Gbps Ethernet switch for storage and HPC uses, the XG2600’s 26 ports use less than 5W each, a power savings of greater than 30%, Fujitsu Frontech says. It uses SFP+ optical modules and can be used with SFP+ twinax copper cables, and it comes in a space-saving 1U module. The company says that the XG2600 offers extremely low latency, outstanding throughput, and high reliability.

■ ManageEngine Applications Manager 9

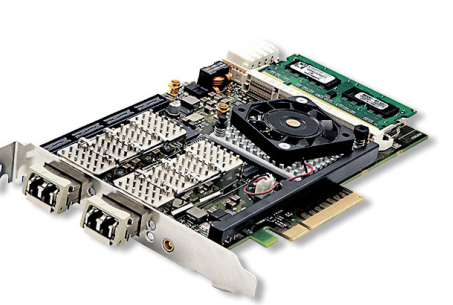
ManageEngine announced ManageEngine Applications Manager 9. This application performance and availability monitoring program now includes the Oracle E-Business Suite Monitoring and the AS 400/iSeries Monitoring to provide users with enhanced visibility and more control over data center infrastructure. ManageEngine Applications Manager 9 also monitors hardware and software associated with the performance and availability of applications, which includes servers, databases, Web services, and middleware. Additionally, it features customizable management dashboards and Business Service Management views.

■ Net Optics iBypass HD & iLink Agg

Net Optics announced two products: the iBypass HD and the iLink Agg. The iBypass HD is a high-density security bypass switch that supports two to eight network segments, with each segment operating independently to ensure link protection. The switch also includes Net Optics’ Heartbeat technology, which monitors the health of the attached in-line monitoring device. The iLink Agg is a 1Gb link aggregator with high port density designed for monitoring applications. With the iLink Agg, enterprises apply a pool of monitoring tools to as many as eight network links or 16 Span ports.

■ nPulse Network Systems HammerHead 10Gbps Capture & Replay

nPulse Network Systems released the HammerHead 10Gbps Capture and Replay system, which is based on the Napatech NT20E 2 x 10Gbps In-line adapter. nPulse calls HammerHead the first traffic-testing product that affordably offers full line-rate 10Gbps packet capture, record-to-disk, and replay abilities. nPulse says HammerHead can provide 10Gbps test performance at less cost than proprietary alternatives by matching Napatech’s standards-based network adapter technology with off-the-shelf multi-core server hardware and advanced software tools created in a Linux environment. The



Napatech In-line adapter accelerates network monitoring system performance via a combination of real-time line-rate 20Gbps packet capture and numerous features designed to offload server CPU resources, including nanosecond time-stamping, port merging, packet decoding, on-the-fly filtering, deduplication, and flow identification with intelligent distribution of flows up to 32 processor cores.

■ Oracle GoldenGate

Oracle unveiled GoldenGate, which is a fast real-time data integration and bulk data transformation platform that delivers reliable data, instant business intelligence, higher online transaction processing performance, and 24/7 continuous data availability for mission-critical systems. Oracle



GoldenGate supports multidirectional data synchronization for distributed systems; zero downtime system upgrades; disaster recovery; and migrations between heterogeneous databases, OS platforms, and servers. Oracle also announced the GoldenGate Veridata utility and Oracle Management Pack for Oracle GoldenGate, which identify and report on data discrepancies between heterogeneous databases and let users easily manage Oracle GoldenGate deployments across the enterprise, respectively.

■ Radware Alteon 5412

Radware announced its Alteon 5412 application delivery platform, which is designed to meet the network and application needs of enterprises. The Alteon 5412 helps enterprises reduce capital expenditures and capacity planning risks and eliminate application delivery overspending with a “pay-as-you-grow” model. It offers response times up to 20Gbps of application switching throughput capacity and up to 340,000 Layer 4 transactions per second. The Alteon 5412 also features four 10 Gigabit Ethernet ports and 12 GbE ports.

■ ZyXEL MWR222 Mobile Wireless Router

ZyXEL announced the release of its mobile wireless router, the MWR222. The mobile router enables users to access the Internet no matter where they are. The router is compatible with 802.11n Wi-Fi products and has 3G/4G connectivity and a rechargeable battery backup that can last more than two hours. Other features include dual Ethernet and dual USB ports, a WPS button for easy wireless security setup, and other security provisions including WPA/WPA2 and a subscription to OpenDNS.

PHYSICAL INFRASTRUCTURE

■ Eaton Pow-R-Flex

Eaton announced the availability of its Pow-R-Flex low-ampere busway. Pow-R-Flex provides enterprises with flexible power distribution where quick adaptation is needed, such as in data centers, labs, machining shops, and manufacturing facilities. The Pow-R-Flex has an aluminum housing, a shutter mechanism, and safe plug-in outlets, and it can be fitted with receptacles up to 60 amperes and 480 volts.

SECURITY

■ Activecrypt Software DBDefence

Activecrypt Software released DBDefence, software designed to strengthen the protection for Microsoft SQL Server users through transparent database encryption. It also has the ability to hide the database schema from users who are not authorized. Users with DBDefence can encrypt their databases to keep out hackers and competitors, preventing them from gaining access to information stored inside the databases. Easy database pickup is also an advantage of DBDefence because it automatically secures the database through encryption whenever a database is backed

up; therefore, users don’t need to purchase additional security software for backup purposes.

■ Beta Systems Software SAM Enterprise Identity Manager

Beta Systems Software launched the next generation of SAM Enterprise Identity Manager, which is designed to plot a course between current business processes and organizational workflows with Identity Access Management. Approval processes through SAM are designed to be more efficient and transparent, and users are able to impose deputy rules while also bettering user performance. The help desk task load has been cut down to help save money, and companies are able to automate lifecycle management of IT user roles, identities, and access rights. SAM manages conflicts by offering comprehensive options for mitigating conflicts stemming from security-relevant business processes.

■ Cyber-Ark Software Privileged Identity Management Suite Version 6

Cyber-Ark Software announced the sixth version of the Privileged Identity Management Suite. For SAPM (shared-account/software-account password management) and SUPM (superuser privilege management), the latest version of the Privileged Identity Management Suite pushes a unified approach that focuses on policy. Version 6 includes automatic privileged account detection, which uses Cyber-Ark’s distributed architecture to abide by critical audit and compliance processes linked to SAS 70, PCI, HIPAA, and Sarbanes-Oxley. Users won’t need to implement SUPM and SAPM individually with version 6.

■ Lantronix ManageLinux 2.0

Lantronix released version 2.0 of its ManageLinux software, which the company describes as providing access to firewall-protected devices via the Internet. The software uses Lantronix’s VDN (Virtual Device Network) technology to let users create VIP (Virtual IP) connections between two Internet points without the need to change network configurations or application software, thus ensuring access to only predetermined devices. Version 2.0 lets administrators configure multiple devices via a command line interface, while automated backup and recovery features are aimed at reducing staff hours and related expenses. In addition to monitoring equipment, ManageLinux also lets service providers remotely diagnose problems and repair services. ManageLinux also integrates with DeviceLinux and SecureLinux.

■ M86 Security MailMarshal SMTP 6.7

M86 Security announced the availability of its cloud-based malware protection solution, MailMarshal SMTP 6.7. The package includes IP Reputation, which accurately rejects spam messages before they reach a company’s email gateway; the Blended Threat Module, which blocks emails that contain malicious links; and the Spam-BotCensor, which accurately identifies spam messages sent by known botnets.

■ Oracle Audit Vault Release 10.2.3.2

Oracle introduced the latest version of its Audit Vault, which is designed to secure enterprise databases and address regulatory requirements. Oracle Audit Vault Release 10.2.3.2 features report scheduling, notification, attestation, and archiving capabilities that let users more easily comply with internal and external data privacy and protection mandates. Other features include entitlement reports; automated cleanup of audit trail data from supported Oracle and non-Oracle databases; and compliance

reports for Sarbanes-Oxley, the Health Insurance Portability and Accountability Act, and Payment Card Industry Data Security Standard regulations.

■ Saint 7.2

Saint released Saint 7.2, the latest version of its vulnerability scanning and penetration testing solution. Version 7.2 includes OVAL functionality, which allows users to import security-related checks by compliance, patch, and vulnerability, and it meets SCAP requirements. Saint 7.2 also features a new form-based authentication for Web applications.

■ Vasco Data Security Multi-application Security Model

Vasco Data Security announced its multi-application security model. The model is designed to give enterprises access to multiple applications with only one DIGIPASS hardware or software credential. The security model will provide enterprises with high-quality security, flexibility, and compliance with corporate or government standards.

■ WatchGuard Technologies XCS 770, 970 & 1170

WatchGuard Technologies announced the availability of the XCS series of high-performance messaging and content security appliances, designed specifically for midsized enterprises. The series includes



the 770, 970, and 1170 models, which all include an antispam engine that examines sender information and content such as images, attachments, and embedded URLs. Pricing for the XCS series is \$8,500 for the 770, \$40,000 for the 970, and \$60,000 for the 1170.

SERVICES

■ EMC Data Warehouse Services, EMC Business Intelligence For Infrastructure Service & EMC Contact Center Services & Solutions

EMC launched its expanded services and solutions for Microsoft business intelligence, data warehouse, and mission-critical SQL Server environments, designed to enable organizations to make more informed decisions, reduce costs, and increase security and productivity. The EMC Data Warehouse Services offering lets users collect, consolidate, and organize the business-critical data that is required for business intelligence and pervasive analytics. EMC Business Intelligence for Infrastructure Service provides users with real-time insight into the infrastructure that runs the business. The EMC Contact Center Services and Solutions offering lets users optimize contact center performance; improve processes, real-time visibility, and decision making; and increase productivity.

■ HP Neoview Advantage, HP Converged Infrastructure Architecture & HP Converged Infrastructure Consulting Services

HP released several products, including HP Neoview Advantage, HP Converged Infrastructure architecture, and HP Converged Infrastructure Consulting Services. HP Neoview Advantage is an enterprise data warehouse platform that supports real-time insight and decision making and lets customers make adjustments as needed. HP Converged Infrastructure architecture helps users to focus more of the budget on innovation rather

PRODUCT RELEASES

Continued from Page 5

than maintenance. The company says HP Converged Infrastructure Consulting Services help users quickly and seamlessly



transition from isolated product-centric technologies to flexible converged infrastructure. All of HP's services enable customers to design, test, and implement highly scalable infrastructures.

■ IBM Sustainable Asset Analytics

IBM introduced its Sustainable Asset Analytics consulting service designed to enable users to manage real estate, supplier performance, carbon data collection and analysis, asset lifecycle maintenance, and all associated business processes and systems. Sustainable Asset Analytics covers

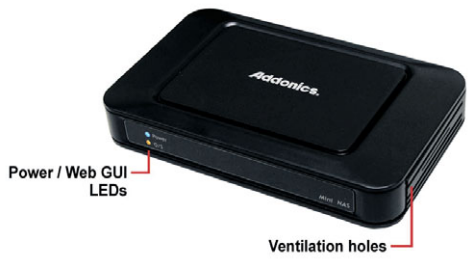


property carbon footprinting, property carbon audit, travel carbon footprinting, project-based travel tracking and analysis, workplace transformation, consolidated real-time property-related data reporting, product and service lifecycle carbon analysis, and data center management.

STORAGE

■ Addonics Mini NAS

Addonics released the Mini NAS (starting at \$69), a portable network storage enclosure that includes an Ethernet 10/100Mbps connection and the ability to install any 2.5-inch SATA hard drive or SSD and make it sharable instantly over any LAN. USB printers can be shared via the LAN simultaneously after attaching it to the Mini NAS. Roughly the size of a



VHS tape and weighing less than a pound, the Mini NAS supports SMB (Server Message Block) and open-source Samba network protocols. FTP access for up to eight users operating globally via a Web console is also available via Internet connections. BitTorrent and iTunes media server abilities are also supported. Other features include the ability to set the Mini NAS as a DHCP server or client.

■ DSI DSI9303-D VTL & DSI9983-S96 Enterprise Edition

DSI (Dynamic Solutions International) announced the DSI9303-D VTL and DSI9983-S96 Enterprise Edition, featuring integrated data deduplication rates of 10 to 1 that result in a decreased storage footprint of more than 90%. The DSI9303-D is a VTL for iSCSI/IP or FC SANs. DSI says the DSI9983-S96 Enterprise Edition features support for one-to-one and many-to-one replication configurations, enabling tape infrastructure consolidation at a centralized data site. By deploying

standalone DSI9303-D remote office/branch office all-in-one servers at each site, remote location virtual tapes are replicated to the data center via WAN. The DSI9983-S96 then aggregates the data in a clustered repository at the data center. The two systems represent a DSI partnership with FalconStor.

■ EMC Avamar 5.0

EMC introduced the latest version of EMC Avamar, which is a deduplication backup platform for enterprises of all sizes. EMC Avamar 5.0 ships with enhanced backup capabilities for desktop and laptop computers, enabling users to secure data from the edge of the network to the data center with a single solution. Other features include new lightweight clients for Microsoft Windows and Mac, an easy-to-use interface for backups and restores, and powerful tools for administrators. EMC Avamar employs a capacity-based licensing model, which lets users add capacity when needed without paying a per-user fee. EMC also increased Avamar backup capacity by more than 60% and added new deduplicated export to tape functionality.

■ Hitachi Data Systems Dynamic Replicator

Hitachi Data Systems, together with InMage Systems, launched the Hitachi Dynamic Replicator, which is a software platform that is ideally suited to the disaster recovery demands of midrange customers. Designed for heterogeneous data storage environments, Hitachi Dynamic Replicator also caters to specific application environments. The Hitachi Dynamic Replicator features network optimization and automated management capabilities. When used in conjunction with existing midrange storage systems, the offering represents a comprehensive replication-based platform.

■ Iron Mountain Accutrac

Iron Mountain announced it has enhanced its Accutrac records management program so organizations can better track, control, and apply consistent retention policies to their records. Its new Web interface lets customers order remote records, pick them up, and make other transactions. Through a records retention and hold workflow system, the enhanced program also provides improved compliance and litigation readiness. This lets users obtain clear and detailed audit trails. It offers more comprehensive searching, tighter security, and increased flexibility for customization. Iron Mountain joined with IBM InfoSphere Enterprise Records so users could have just one place to view and control both electronic and physical data.

■ Mimosa Systems NearPoint For Exchange 2010

Mimosa Systems announced that its NearPoint product will deliver support for Microsoft Exchange Server 2010. NearPoint for Exchange 2010 will offer companies a comprehensive organizational archive with single-instance storage, retention, and e-discovery; an integrated application to manage workloads across the information life cycle; and access to archived content, even when offline.

■ Open-E DSS V6

Open-E announced the latest version of its Open-E IP storage management software. Open-E DSS V6 includes features such as via script (API) executable snapshots, allowing users to have periodic snapshots from consistent databases at the volume level, the company says. Open-E DSS V6, installable on any bootable medium (such as internal hard drives, RAID arrays, USB, or SATA), can be downloaded from the Open-E Web site. The latest release

also includes an extension of the tape management utility that includes barcode support and tape magazine management. It's a free update for existing Version 6 users; a free trial is also available.

■ QLogic QEM3572 ExpressModule

QLogic announced the QEM3572, an 8Gb Fibre Channel/1Gb Ethernet ExpressModule for Sun Microsystems' Sun Blade 6000 systems. The Sun Blade 6000 system



is designed to support capable server blades based on UltraSPARC, Intel Xeon, and AMD Opteron processors in the Solaris Operating System, Windows, Linux, and VMware environments.

■ Quantum Scalar i40 & i80

Quantum announced the addition of the Scalar i40 and i80 tape libraries to its Scalar iLayer tape automation portfolio. The Scalar series is designed to provide SMEs and distributed data centers with more storage capacity as well as room for growth and simplified system management. The i40 can accommodate various data storage needs by scaling from 25 slots up to 40 slots through capacity-on-demand software licensing and features up to five import/export slots. The i80 scales from 50 slots up to 80 slots and has up to 10 import/export slots.

■ RAID Xanadu 230, 220

RAID announced the latest addition to its Xanadu 200 series, what it calls the world's largest monolithic storage system, the Xanadu 230. It can support more than 2,700 hard drives in SSD, FC, and SATA, the company says. The Xanadu 220 uses



120Gbps QDR InfiniBand and supports 1,000 drives. Other features of the HPC-capable Xanadu 200 series include Intel "Nehalem" controller processors, MAID, parity check on read, dynamic expansion, and native encryption.

■ Sherpa Software PST Backup Attender

Sherpa Software announced PST Backup Attender, which is an archiving solution that runs on individual desktops and allows users to quickly back up PST files

to a central storage location on the network. The solution's features include customized backup locations, the ability to back up PST files even when they're in use, and the ability to synchronize only changes made since the last backup.

■ Sonasoft SonaRAMBO

Sonasoft released SonaRAMBO, which it says is the industry's first fully integrated replication, archiving, migration, and backup suite. The SonaRAMBO bundled offering includes elements from the company's SonaExchange and SonaVault products. SonaExchange features include the backup and recovery of exchange information stores, email recovery, primary Exchange Server replication, and Exchange Server migration. SonaVault offers storage management, continuous email archiving, secure and guaranteed archiving, and regulatory compliance requirements. The bundled price is \$7,777 for up to 250 mailboxes.

■ Spectra Logic Spectra T-Finity

Spectra Logic announced the Spectra T-Finity, a tape library that gives enterprises high efficiency at a low cost, saving them up to 30% on initial investments and 15 to 20% on annual operational expenses. The fast, high-availability (99.99%) system can scale to more than 45 petabytes per library and 180 petabytes in total.



Targeted for data-intensive environments, the T-Finity offers support for LTO open tape technology and IBM System Storage TS1130 tape drives, letting customers select their tape option.

■ StoneFly StoneFusion 6.3

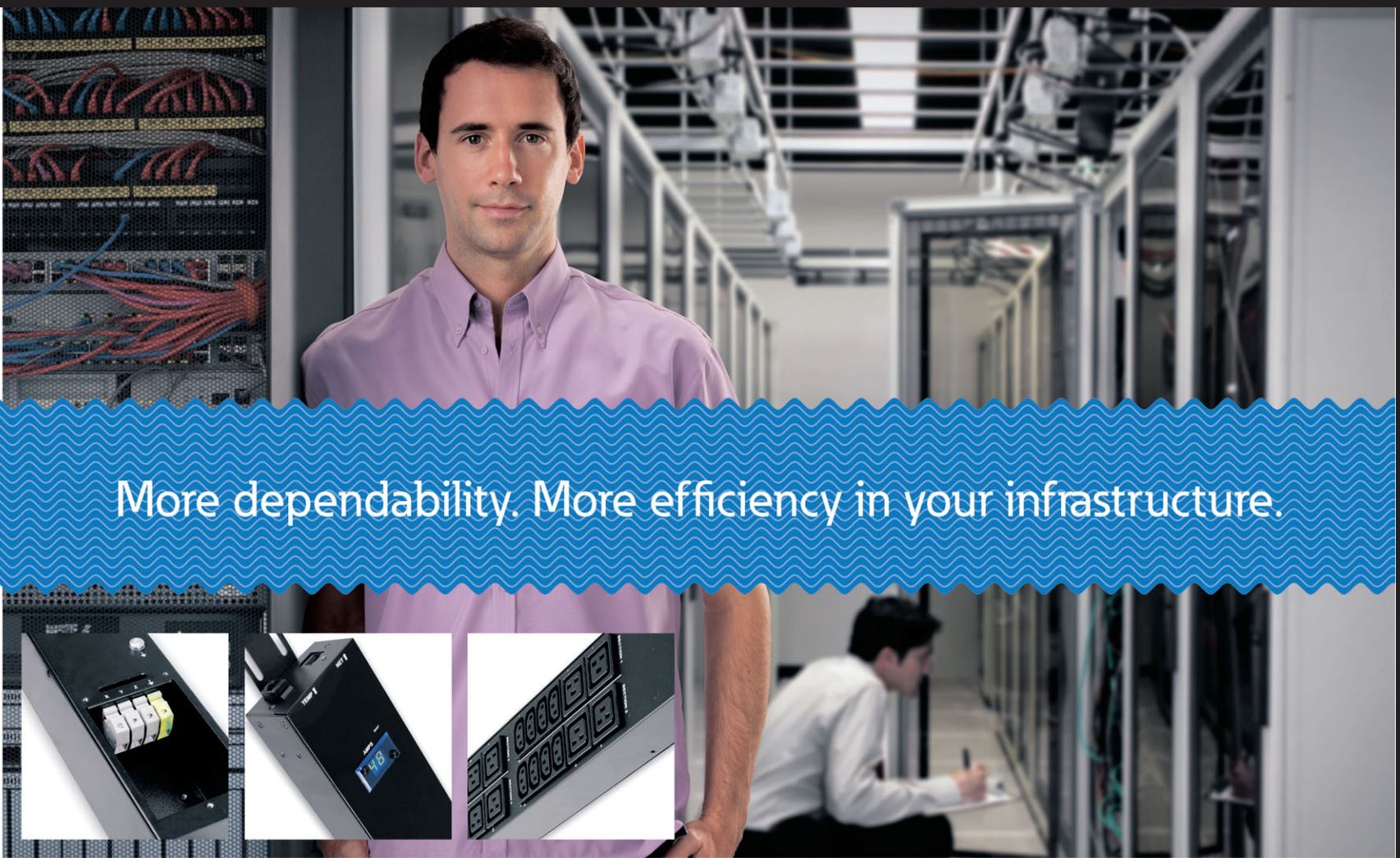
StoneFly announced StoneFusion 6.3, a virtualization-focused version of its intelligent network storage platform, which is integrated into all StoneFly IP SANs. StoneFusion provides block-level provisioning and centralized storage management, control, and monitoring of logical storage volumes. Key updates to version 6.3 include compatibility with StoneFly's new SCVM (Storage Concentrator Virtual Machine) that provides disaster recovery capabilities and enhanced support for leading virtual machine guest operating systems. Users will experience improved system management with Quick Sync and Pass-thru Copy features. Version 6.3 also adds UPS support for all IP SANs.

■ Verity Systems V91 Max

Verity Systems announced the V91 Max, its hard drive degausser. The V91 Max produces a 7,000 oersted electromagnetic gauss field that erases any information stored on a hard drive in about 20 seconds. The V91 Max can also remove data from DLT, SDLT, 3840, and LTO4s. The V91 Max is compact, quiet, and manually operated.

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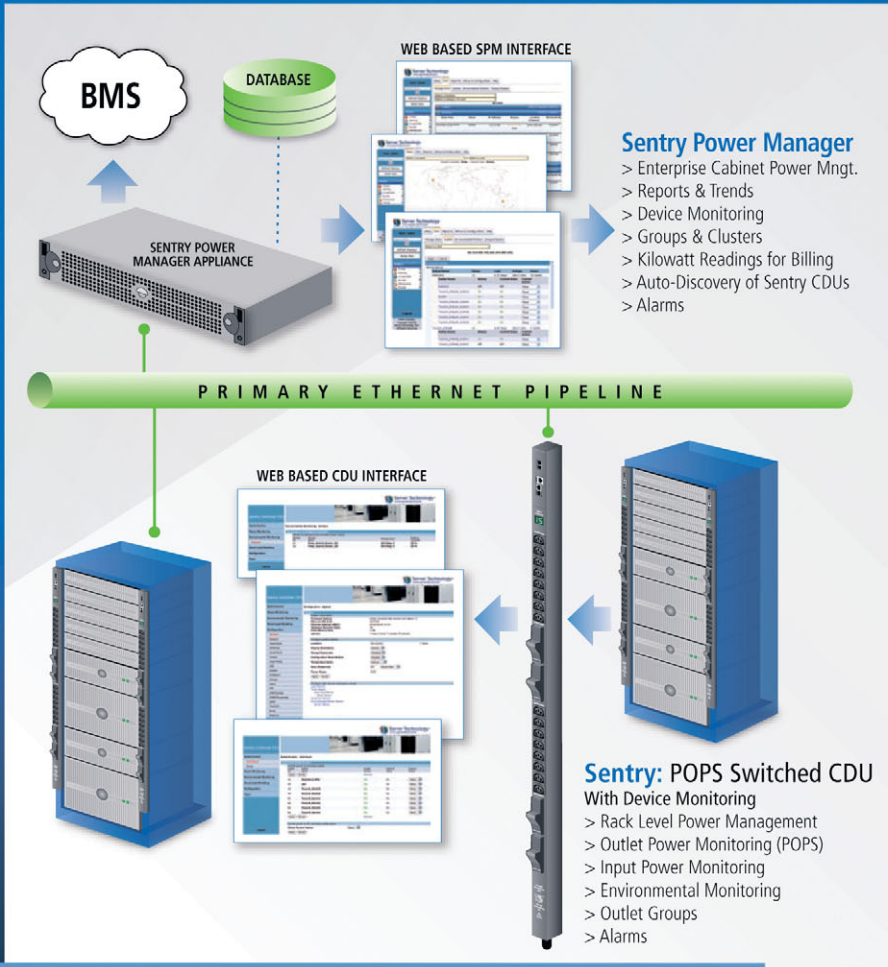


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Data Lockdown

Continued from Page 1

because it doesn’t provide end-to-end security. Instead, the email sitting in one user’s inbox is stored in an unencrypted form on the machine or on the company’s server. “This is why end-to-end email encryption services are the only types that should be considered,” Cain says.

That approach includes a cost-effective solution that provides ease of use, high security, and security policy management, he adds. For instance, some applications include a policy control that looks for security cues in an email and then makes a decision if the email should be encrypted before it’s delivered.

Physical security is crucial, as well, Cain says. Although it seems obvious, making sure all servers are kept in a secure storage facility is an area that sometimes gets overlooked. “Of course, every network should also be secure at every possible point of dissemination for that data,” he adds.

The Human Factor

Another major challenge is auditing administrative-level users. These individuals are particularly important to track because they can create back-door logins and other configuration items and can cover their activities.

For the administrative-level users, there should be strong password policies and also more focus on those few highly privileged users, notes Martin Ryan, vice president of sales and marketing at e-DMZ Security (www.e-dmzsecurity.com). “They have the access and knowledge to do the most damage,” he says. “By focusing on those users that can do the most

harm, you can free up budgets from unnecessary monitoring of users that cannot do major damage.”

That focus includes putting in stronger audit capability, he adds, and implement-

Some industries will require even more security controls, such as healthcare and financial services, which are covered by regulatory mandates.

ing individual account abilities so that an IT manager can see who logged in using the admin account password. An added security level is recording and monitoring access—essentially, doing session recording of everything so that there’s a record of what’s been done and by whom.

Ryan notes that strong password change controls can be another security measure for improving the safety of customer and employee data. Some companies have found better protection, for example, by changing passwords each time after use for privileged accounts.

Additionally, automation can be a boon for every strategy, notes Raphael Reich, senior director of marketing for data governance solution provider Varonis Systems (www.varonis.com). Specifically, automation can be used for such tasks as regularly collecting permissions and permissions changes, auditing data access, looking for indicators of when access is no longer

needed, and even implementing automated access entitlement systems to connect data users with data owners—who can then place time limits on access, for example.

Extra Measures

Some industries will require even more security controls, such as healthcare and financial services, which are covered by

“Customer and employee data protection is cross-industry with compliance requirements such as PCI and HIPAA, bringing added focus to those companies that process credit card transactions or deal with patient records,” says Ryan. “[Sarbox], though a bit more generic in nature, drives compliance at some level to every public company.”

The good news is that compliance can sometimes drive better security at a company, Cain adds. Although regulations can add pressure to already-strained budgets and mounting end-user requirements, many organizations may view them as an opportunity to improve systems and upgrade infrastructure to stay ahead.

“The bottom line is that every organization should be managing data protection proactively and not waiting until something bad happens to them or their industry,” Reich says. “That is not a forward-thinking business strategy; it is a recipe for disaster. Good risk management means balancing risks, the likelihoods those risks will occur, and resultant costs.”

Top Challenge: Establishing Authorization Procedures

In most instances, the methods for safekeeping data itself involve physically locking down the media, encrypting files, and other strategies, but one area that’s often overlooked is making sure that the individual accessing the data has proper authorization, notes Simon Ford, international sales director at NCP

Engineering (www.ncp-e.com). “Methods have to be implemented to ensure that only those individuals authorized to access certain data are who they say they are,” he says.

Fortunately, creating protections doesn’t require extensive policies or extra expenditures. Ford notes that it

is usually of a matter of tweaking VPN controls, but it is also important to understand what individuals should be accessing. Talking with department managers and having a grasp of how data is handled in each company area will give an IT manager a better sense of data flow and prevent internal breaches.

When Do You Need N+1?

Continued from Page 1

company running only a single server and it goes down, you could be in big trouble.”

Jack Santos, CIO executive strategist with Burton Group (www.burtongroup.com), says IT needs to really understand how a given piece of equipment can fail and what vendor-provided service is already costing them.

“This kind of economic analysis can often tell you whether it’s worth just buying the unit, having it on hand and being pressured that in the event of failure, it’ll cost you less to replace than paying the vendor for that support,” says Santos, who advises companies to also factor in employee availability and traffic. “How quickly you can get your guy in to make the switch is important, too. If there’s lots of traffic and you go past your four- or eight-hour support window, you could be out of business by then.”

Nothing Is Free

Although maintaining a fleet of spare parts for the server—or even an entire server itself—in inventory to hot swap in the event of an in-service failure is a tempting means of avoiding downtime, it doesn’t come without costs of its own.

“Although companies think that buying spares and keeping them onsite doesn’t cost them anything, it does,” says Gold. “There’s an opportunity cost, a storage cost, and even a depreciation cost.”

Gold says organizations must understand the business impact of an outage before deciding if it’s worth buying a spare. Only truly mission-critical equipment—which negatively and significantly

impacts the business if it breaks and can’t be repaired or replaced quickly—should qualify for N+1.

“If a printer goes down, you probably have another place to print,” says Gold. “Some things just don’t matter enough to justify buying a spare because an outage wouldn’t affect your business.”

It’s a sentiment echoed by Michael Terlizzi, executive vice president of operations for Telx (www.telx.com), who says basic understanding of business needs should drive the N+1 decision. “Selecting the appropriate level of fault tolerance is truly dependent on the applications being supported and the required

The Internet Is Changing N+1 Thinking

Keeping hardware spares onsite is becoming less of an issue as Internet-accessible applications become more mainstream. As shops increasingly look to the cloud, redundancy and fault tolerance become as critical to uptime as parts availability and service turnaround times.

“With the rise in Internet-accessible applications, the real discussion has become just how redundant your system is, and whether you’ve really built it for true fault tolerance. You really want to build a system so that even when part does fail, it still operates,” says Jack Santos, CIO executive strategist, Burton Group (www.burtongroup.com).

availability of those applications and systems,” says Terlizzi, adding it may not always make sense to stock up locally. “The SMB may elect to add some redundant components to their infrastructure where economically practical, but should look to data center providers whose facilities are purpose-built to support availability in excess of 99.9%.”

Focus On Vendors

After settling on what data center components should be included in an N+1 strategy, Gold says IT should sharpen its pencil as it finalizes contracts with vendors. “Don’t automatically assume that the vendor will tell you what you need to buy for spares, because they’ll often try to sell you things you don’t need,” he says. “Do your own due diligence.”

Gold also recommends updating contracts to include clauses that provide for refunds on any N+1 equipment that isn’t used within the contracted period. “If the vendor tells you that this is a wear component, and it doesn’t wear out, then you’re being sold something that you don’t need,” he says. “It may be difficult to get such a thing into the contract, but if you have leverage with your vendor, why not try?”

Get Business On Board

As organizations grapple with the costs of buying and storing additional hardware, they should also consider how these costs will flow through to the business.

“The problem that many organizations have dug themselves into is that as costs are covered by the overall organization and not charged back to each business area, their customers have no idea about what something actually costs,” says Bill Malik, a research director with Gartner. “If you want to be able to effectively recover the

Key Points

- Partner with the business to understand the mission criticality of all relevant hardware. Equipment whose failure doesn’t flow to the bottom line typically does not need N+1 coverage.
- Consider leveraging third-party providers for services that would be too expensive or complex to deploy in-house.
- Negotiate with vendors to integrate performance thresholds into contracts and service-level agreements—and refunds if N+1 hardware is ultimately not used.

cost for high availability, then you’d better already be recovering the cost for the availability you’re already delivering.”

Raising the business areas’ awareness of—and involvement in—cost recovery goes hand in hand with setting an appropriate level of N+1-related redundancy. “Overproduction is one of the cardinal sins of IT,” says Malik. “If the customer needs 99% availability and you’re delivering 99.9%, that extra order of magnitude can increase costs by 50%. Understand the business case and tailor your strategy to fit that need.”

Malik also recommends ensuring N+1 planning isn’t limited solely to procurement and storage of spare hardware. IT and business staff must be properly trained to ensure the N+1 equipment can be effectively called upon when needed.

“You have to get the proper operational procedures in place before you can even have a chance of doing a clean handoff from one active system to another,” says Malik. “This applies whether you’re recovering from an outage or a disaster, or only doing planned maintenance.”

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by Joanna Safford

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UpcomingIT Events

For more Upcoming IT Events, see page 3.

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Dec. 18, 11 a.m.

NuVox

301 N. Main St., Suite 5000

Greenville, S.C.

www.upstate-issa.org/index.htm

- JANUARY -

AITP Southwest Missouri

Jan. 19

Springfield, Mo.

aitpspringfield.org

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ISSA St. Louis Chapter

Jan. 19

St. Louis, Mo.

stl.issa.org

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Oklahoma City AITP Chapter

Jan. 19

Oklahoma City, Okla.

www.aitp.org/organization/chapters/chapterhome.jsp?chapter=40

.....

AITP Northeastern Wisconsin Chapter

Jan. 20, 4:15 p.m.

Holiday Inn Select

150 S. Nicolet Road

Appleton, Wis.

new.aitp.org

.....

AITP Atlanta

Jan. 21, 5:30 p.m.

Crowne Plaza Atlanta Perimeter NW

6345 Powers Ferry Road NW

Atlanta, Ga.

www.aitpatlanta.org

.....

San Diego SQL Server User Group

Jan. 21

San Diego, Calif.

www.sdsqslug.org

.....

ISSA Inland Empire

Jan. 26

ie.issa.org

.....

ISSA Baltimore

Jan. 27, 4:30 p.m.

Sparta Inc.

7110 Samuel Morse Drive, Suite 200

Columbia, Md.

www.issa-balt.org

.....

AITP California Southland

Jan. 27

www.aitpcalsouthland.org

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Green Data Center Conference

Feb. 2

University Of California San Diego

San Diego Super Computer Center

10100 Hopkins Drive

San Diego, Calif.

greendatacenterconference.com

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AFCOM St. Louis "Gateway" Chapter

Feb. 9

Schneider Electric Technology Center

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O'Fallon, Mo.

www.afcom.com/afcomnew/stlouis.html

.....

AITP Southwest Missouri

Feb. 16

Springfield, Mo.

aitpspringfield.org

.....

ISSA St. Louis Chapter

Feb. 16

St. Louis, Mo.

stl.issa.org

.....

Oklahoma City AITP Chapter

Feb. 16

Oklahoma City, Okla.

www.aitp.org/organization/chapters/chapterhome.jsp?chapter=40

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AITP Northeastern Wisconsin Chapter

Feb. 17, 4:15 p.m.

Holiday Inn Select

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Appleton, Wis.

new.aitp.org

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AITP Atlanta

Feb. 18, 5:30 p.m.

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www.aitpatlanta.org

COVER FOCUS

Control IT Maintenance Costs

Maintenance Is A Vital Expense, But It Doesn't Have To Break The Bank

by Carmi Levy

EVERYONE SEEMS to know the approximate price of a new server or laptop. However, the costs of keeping that new hardware up and running—as well as maintaining the software that runs on it and the processes that surround them all—aren't as well understood. They should be: As the economy slowly emerges from the downturn, keeping IT maintenance costs in check can represent a major source of operational cost savings.

This is easier said than done, as unchecked additions to the technology environment can often leave IT—and the business areas it serves—with an overly complex patchwork of overlapping solutions that keep maintenance costs higher than they should be. According to Mike Rollings, research director of enterprise architecture at Burton Group, the solution is to simplify.

"Once you implement something, it immediately becomes part of your environment that needs to be maintained," says Rollings. "The cost associated with keeping whatever it is running is really associated with maintenance."

So as companies begin looking at how to reduce maintenance costs, Rollings advises

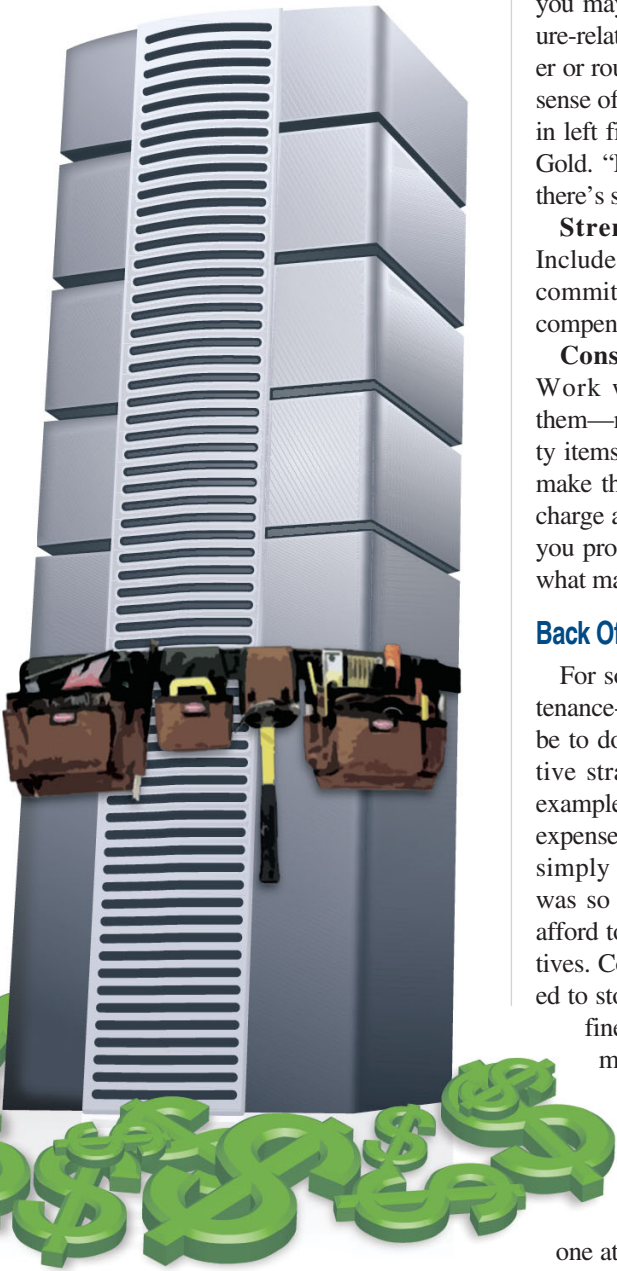
Key Points

- **Keep it simple.** Complexity drives cost, so reduce redundant systems and move to common platforms to simplify the architecture.
- **Talk to the business.** Let them determine which systems need greater care and which ones can be reduced or eliminated.
- **Know when to outsource.** Hand off tasks to third parties when internal resources lack the skill sets to do the work efficiently.

them to first reduce the number of applications and eliminate redundancies in the information environment.

Talk To The Business

As IT moves through the process of identifying overlapping areas, it must remain tightly focused on business requirements. "You know you've got a problem when you feel constrained [or like] you no longer have the funds to do new things required by the business," says Rollings. "If you've reached this point and the organization doesn't have the ability to generate more capital expense dollars to cover it, really your only choice is to go back and determine how you're going to get rid of some of your stuff."



Although reining in IT maintenance costs isn't an easy process, Rollings says that this is as it should be. "This is all about dealing with your phantoms," he says. "If you reach a maintenance-related area you haven't felt comfortable discussing with the business, it's probably a sign that you need to have the difficult conversation. The fact is you don't manage your environment in the rear view mirror."

Rollings concludes, "You need to closely assess what you need to do, challenge yourself to have some of those often difficult conversations, and tackle the real issues that are causing you and the business ongoing pain. Nothing is off the table."

Setting & Sticking To Priorities

Those conversations often involve understanding what's important—and what isn't. "This stuff is all about setting priorities," says Jack Gold, president and principal analyst of J.Gold Associates. "It's like paying bills. You have to decide what's most important to pay now and what can wait."

Building out the priority list often involves deciding what makes the most sense to keep in-house and what can be reassigned to a third-party vendor.

"You need to assess what resources from a skills perspective you have in your company," says Gold. "Some things you may not be able to fix very efficiently. For example, something that breaks once every six years that no one knows anything about would probably take you hours to repair. A specialist would get it done in 15 minutes

because he's probably done 100 of them this week."

Gold recommends the following key steps to organizations looking to rein in their maintenance costs:

Track costs on a per-item basis. Many organizations fail to do this, even at a basic level. Doing so can identify trouble spots before things get expensive.

Study industry benchmarks. Although you may not be able to source specific failure-related statistics for your particular server or router, general numbers can give you a sense of where you stand. "If you're way off in left field, there's something wrong," says Gold. "Even if you're in right field, maybe there's something you're not tracking."

Strengthen your vendor contracts. Include uptime and vendor response time commitments in all contracts and include compensation if these targets are not met.

Consider implementing chargeback. Work with the business areas to have them—not IT—identify their highest-priority items and then charge them or otherwise make the budget lines visible. "If there's a charge associated with the particular service you provide, they'll figure out very quickly what matters most to them," says Gold.

Back Off, Carefully

For some SMEs looking to cut the maintenance-related bottom line, the answer may be to do nothing at all. Jack Santos, executive strategist at Burton Group, cites one example of a large retailer that decided the expense of maintaining PCI compliance was simply too high. The compliance budget was so bloated that the company couldn't afford to invest in other discretionary initiatives. Consequently, the organization decided to stop all such maintenance and pay the fines—which amounted to less than the maintenance activities—instead. The savings were used to finance growth-focused IT initiatives.

Although the organization later reversed its decision when high-profile data breaches like the one at TJX reinforced a new reality where not all costs were exclusively financial, Santos says the experience confirms that not all maintenance spending should be viewed in absolute terms, and all doors should be left open.

Longer term, Gold says SMEs need to change their perceptions of maintenance to ensure their investments in technology help them continue to meet their business needs.

"If you don't change your car's oil for 150,000 miles, you'll almost certainly have problems with the engine," says Gold. "Companies have to get away from looking at maintenance purely as a cost structure. It's a basic component of doing business." ■

Top Challenge: Visibility

You can't manage what you can't see. Many organizations pay to maintain hardware, software, and related assets without visibility into what those assets really are. This makes it hard to identify priority areas for improvement and hampers efforts to reduce maintenance costs. Jack Gold, president and principal analyst of J.Gold Associates, says a simple tracking application can work wonders.

"It doesn't have to be a big deal, even a basic spreadsheet," says Gold. "If something breaks, you want to know how long it took to repair, what you did to fix it, and what it cost. If you're not doing this, you'll never gain control over your costs."

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by Blaine Flamig

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Go Green Affordably

Join The Green Revolution With Minimal Investments

by Sixto Ortiz Jr.

IN TODAY’S carbon-constrained, environmentally conscious world, becoming a “green” organization can result in real monetary savings. Even though being green is sometimes derisively associated with the extremes of the environmental movement, the fact is that energy will only get more expensive as natural sources of energy are depleted. Saving energy makes bottom-line sense.

Key Points

- Managing airflow, understanding equipment, and looking for opportunities to use the cloud can generate energy savings.
- Most organizations still have a ways to go before implementing cohesive green IT programs.
- Just knowing what to turn off and when can quickly generate significant savings.

By its very nature, IT consumes a hefty amount of energy, and that consumption will only increase as modern organizations’ thirst for data grows. Unfortunately, many IT managers fear that going green is an expensive proposition that will require significant capital outlays. But the fact is IT managers can implement inexpensive ways to go green without spending lots of greenbacks.

Moving Air Pays Off

One of the simplest ways to go green with minimal expenses is to manage the flow of air, specifically hot vs. cold air, in the data center.

John R. Savageau, president of Pacific-Tier Communications (www.pacific-tier.com) and a consultant for international organizations supporting data center projects in developing countries, says the use of open racks is “the biggest waste of energy I have encountered in the new age of high-performance servers.” Savageau says installers often leave large spaces between servers in racks, which leads to

hot air recirculation that damages equipment and wastes energy.

To alleviate this problem at low cost, he recommends that administrators get rid of the four-post racks in server farms, implement hot/cold aisle separation, make use of blanking panels, implement hot or cold aisle containment, and, where possible or affordable, use a raised floor.

Carl Cottuli, vice president of product development and services for Wright Line (www.wrightline.com), says administrators should consider utilizing a heat containment system that attaches to the tops of server racks and is used to capture and redirect hot air away from servers and toward air-conditioning units via a plenum. Cottuli says these overhead systems have zero impact on existing data center footprints and allow the data center layout to remain unchanged.

Know Your Equipment

Oftentimes, running equipment improperly can lead to tremendous energy inefficiencies. These inefficiencies can cost significant dollars and prevent an organization from truly going green.

For example, John Pappas and Ron Wilson, engineers with Mazzetti Nash Lipsey Burch (www.mazzetti.com), point out that IT departments often keep idle servers running even when they are not in use. Pappas and Wilson recommend that administrators, just like a home user turning the lights off at home, remember to turn off idle servers, resulting in immediate energy and cost savings.

Also, it is common to find separate data center cooling units set so that one humidifier is providing moist air while another is dehumidifying, causing both to work harder than they should, they warn. The solution is for administrators to check temperature and humidity controls on HVAC equipment regularly to ensure all are working properly and efficiently.

Administrators can also make procurement decisions that can help an organization’s IT department go green. David Johnson, vice president of The Fulcrum

reform corporate IT programs to be more sustainable.

Redemtech’s Sustainable Computing Assessment, which benchmarks organizations against sustainable best practices in productivity, reuse, accountability, energy, and environmental social responsibility, revealed that even though organizations have made

strides in energy efficiency, they still lack holistic policies for promoting all four cornerstones of sustainable computing: extended life cycles, energy efficiency, utilization and reuse, and responsible recycling.

Houghton recommends five steps organizations can take to make Green IT programs more successful:

1. Establish a baseline and then set quantitative sustainability targets.
2. Review and revise policies to produce desired outcomes.
3. Extend desktop and laptop life cycles.
4. Optimize reutilization.
5. Create accountability through good governance.



Group, says administrators should replace older equipment with newer energy-efficient models when the time comes to upgrade. Also, Johnson recommends that procurement managers rightsize IT equipment by purchasing small-footprint,

low-energy PCs instead of larger tower computers.

Also, says Johnson, admins can save energy by adjusting power settings on devices such as PCs, laptops, or printers such that monitors, hard drives, and CPUs are set to turn off or hibernate after a preset number of minutes of inactivity. This no-cost solution can yield big annual savings.

A careful inventory audit can help administrators identify opportunities to capture energy savings. Shawn Mills, president of Green House Data (www.greenhousedata.com), says administrators should audit server usage and unplug unused servers. For servers that are only used a few times a year, Mills recommends that administrators implement a change management procedure for turning those servers on and off.

Look To The Cloud

A sensible way to reduce energy consumption is to simply get rid of equipment that consumes energy. Organizations that wish to go green but need to continue to run applications and generate business data can now look to the cloud for a solution.

Using the cloud delivery model to house their data and applications can help companies reduce electricity consumption and put a dent on the almost 1 billion tons of carbon dioxide emissions that powering, cooling, and operating PCs and servers generates, says Yehuda Cagen, director of marketing for Xvand Technology’s business development division (www.xvand.com).

Cloud computing is an effective tool for reducing IT energy consumption because users only use what they need and pay for what they use, says Tim Jewell, CTO at Data Deposit Box (www.datadepositbox.com), who explains that utilization matters because implementing higher utilization to do the same amount of work on fewer computers saves the environmental costs of building and powering those computers.

And, he adds, when a business stores applications in the cloud, the organization saves costs because applications are run on a shared infrastructure where hundreds, possibly thousands, of enterprises are using the same server to run applications at any given time.

Computing in the cloud has numerous advantages for organizations looking to save energy costs. For starters, subscribing to a service requires little or no capital investment because the service is delivered over the Internet for a monthly fee, says John Panico, vice president of sales and marketing for Virtual Resources (www.vresources.net). According to Panico, leveraging the cloud allows enterprises to subscribe to IT products, applications, or computing resources provided as a service over the Internet, eliminating the need for enterprises to require their own servers to run an application. ■

Biggest Challenge: Sustainable Computing

Even though going green is high on today’s priority lists, the fact remains that IT organizations still have a ways to go toward the goal of sustainable computing. Bob Houghton, president and CEO of Redemtech (www.redemtech.com), says the company’s recent Sustainable Computing Assessment shows companies are making limited progress toward

COVER FOCUS

Stay On Top Of IT Regulations

Navigating The Murky Waters Of Compliance In The Data Center

by Chris A. MacKinnon

ALL ENTERPRISES face different types of IT-related challenges, and if you haven't already come up against a tough challenge, it's a safe bet that you soon will. For example, staying on top of data center and IT regulations is one common challenge that enterprises are facing lately. Here are some tips and advice to investigate to help you solve some of the problems that crop up when working to comply with data center and IT regulations.

Top Challenge: Virtual Compliance

Geoff Webb, senior manager of product marketing at NetIQ (www.netiq.com), says it would be impossible to discuss the regulatory challenges of the modern data center without addressing that most pervasive and game-changing technology—virtualization. “We see organizations accelerating the rate at which systems are being virtualized and beginning the first tentative steps to automate the provisioning and management of virtual systems,” Webb says. “But if the pace of change within the infrastructure is accelerating, then the challenges of managing it are growing at an even greater rate.”

Webb says to consider, for example, the problems facing organizations with potentially sensitive data such as credit card numbers or healthcare information. “As virtualized systems become the standard for the processing and storage of this kind of business data,” he notes, “the likelihood that they will hold information covered by legal mandates or industry regulations, such as HIPAA or PCI DSS, becomes almost inevitable.” He says the ability to rapidly provision a new system, and then just as rapidly replicate that system, represents a nightmare for teams who are tasked with ensuring the confidentiality and compliance of that same data.

Clarifying Regulation

Kurt Stoever, vice president of service and support at Quality Tech (www.qualitytech.com), defines regulation as a principle or condition that customarily governs behavior. But how can enterprises manage all the current and emerging standards that dictate the management and operation of their companies? For Stoever, recognizing that there is a difference between regulation, framework, and best practice is the key. “Maintain focus on regulations,” he says, “because regulations dictate the mode and extent of the operation of a company and, in almost all cases, reporting expectations.” Stoever points to HIPAA and Sarbanes-Oxley as popular examples of regulations.

On a similar note, Stoever explains that frameworks are a structured homogeneous set of concepts, policies, and reporting requirements to accomplish a broad objective, such as ITIL and SAS 70. “Best practices are time-proven and generally accepted methods for performing a task or activity,” Stoever says. “We at Quality Tech have segmented our regulatory focus on physical data center operation and supporting activities such as finance and human resources.” Stoever says physical data center operations generally take precedence because nonconformance can lead to possible shutdowns in addition to fines or other penalties.

Delegate Tasks

There are regulations that govern multiple facets of an enterprise's operation. Stoever says his company has solved the problem of one group having to oversee all the different requirements. “Compliance is a top-down and bottom-up program,” he explains. “We've created our own audit and control group to provide overall compliance oversight, but we've also pushed the responsibility of identification of regulatory requirements to various lines of business. For example, human resources is responsible for identifying record retention and security requirements. The facilities teams are

responsible for permitting and identification of applicable environmental regulations.”

Stoever says the lines of business and the audit and control group intersect in many ways. “One example is when a line of business requires assistance from the audit and control group to evaluate a specific regulation,” he says. “Having a central group responsible for audit and control allows us to leverage common business practices and supporting systems across various compliance and reporting requirements.”

He continues, “Our audit and control group designs the companies' compliance roadmap, maintains regulatory awareness, performs research into emerging standards, assists clients with internal audits, and designs supporting policies.” Stoever says this group also performs research into emerging standards, performs gap analysis between today and a state of compliance, and provides standards training.

Control Costs

So what about significant compliance costs? How can enterprises limit these expenses? In Stoever's opinion, compliance

initiatives are not necessarily overhead predestined for cost reduction. “While audit- and compliance-related activities may be considered an operating expense on the income statement, we recognize that compliance can be a source of competitive advantage,” he says. “By staying aware of proposed legislation, such as emissions, we are able to proactively evaluate methods of compliance and be prepared for reporting on its terms.”

In keeping with compliance, Geoff Webb, senior manager of product marketing at NetIQ (www.netiq.com), cites as an example the process that allows a remote business unit to create and provision a virtual system to support, say, a short-term business initiative. “That same process, increasingly highly structured and automated, can and should now integrate with the security team's own technologies to perform their

own assessments and checks,” he explains. “So as the new system goes live, it no longer requires a manual assessment and review by a member of the security team. Instead, it is automatically assessed against corporate security policies, checked for noncompliance with local regulations, and even tested to see if critical vulnerabilities exist.”

Webb says the same automated process could ensure that, should a system be found to be out of compliance, all the necessary stakeholders from the business and security teams are appropriately informed and consulted—ensuring timely review and even automating remediation if needed.

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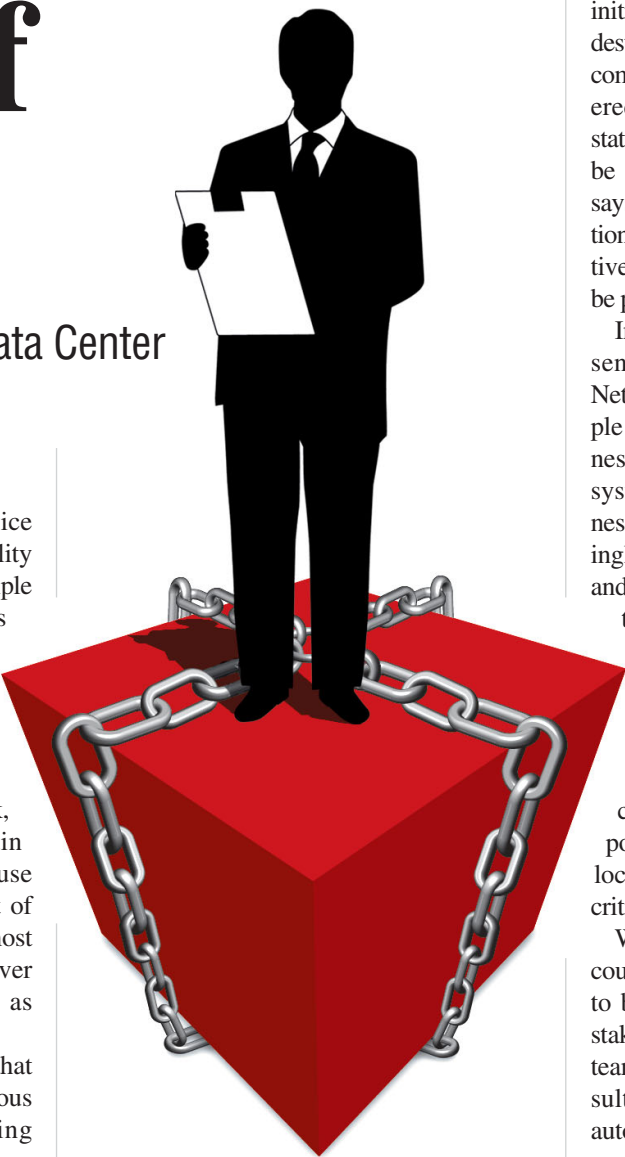
Typically, new compliance initiatives draw guidance from industry consortiums,

Key Points

- Knowing the difference between various regulations and compliance standards is key to understanding how to tackle them.
- Designate members of each area of the business to stay on top of regulations relevant to their departments.
- Automated compliance solutions can help save on associated costs.

according to Stoever. He says his company ensures it stays engaged and informed by joining the conversation.

By identifying and joining industry-specific groups, Stoever says SMEs have an opportunity to be part of the message and, on occasion, steer the conversation. He says advisory boards such as The Green Grid, AFCOM, ASHRAE, and ASIS encourage involvement from stakeholders. [E]



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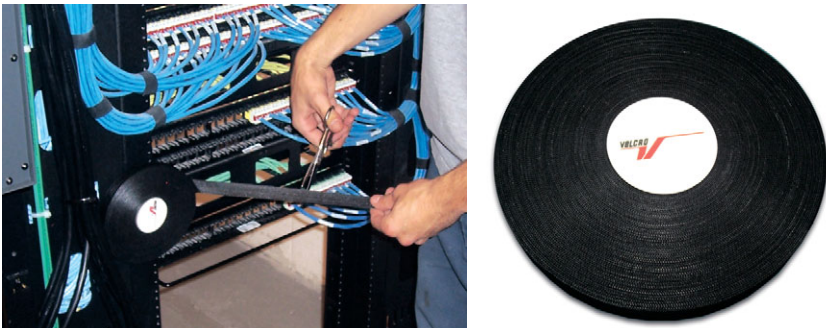
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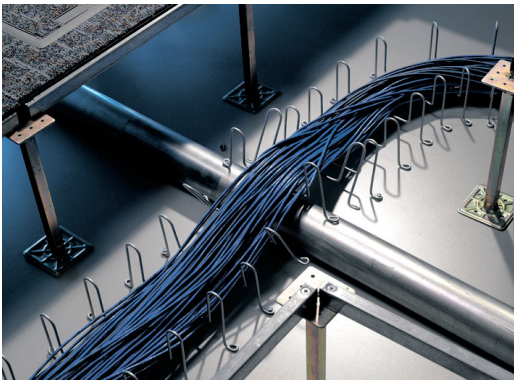


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Compiled by Blaine Flamig

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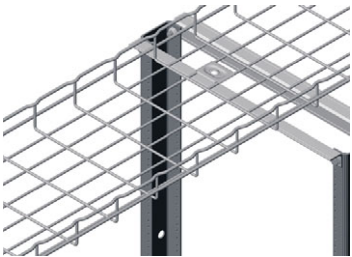
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- Available with and without static dissipation
- Static-dissipation feature integrates with raised-floor static grounding system to provide 1-gigaohm resistance

Best For: Sealing small cable openings in new or existing data centers and for cost-effectively splitting power and data cabling.

(505) 982-7800
www.upsitetechologies.com

Portable Cooling

Product	Black Box ClimateCab NEMA 12 Cabinets	Black Box ClimateCab NEMA 12 Wallmount Cabinets	KwiKool Strategic Air Center 1411
			
Description	Climate-controlled protection found in Black Box ClimateCab cabinets lets you install servers without the need for additional cooling or costly infrastructure. These enclosures are NEMA-12-rated, meaning they are ideal for use in indoor locations with falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids. • Full-sized cabinet with 42U of rack space • Available with 12-24 or M6 rails • Choose from models with 6,000 or 8,500 BTU air-conditioning units • 40-inch depth accommodates most servers Best For: Housing servers in remote locations without cooling infrastructure. Price: \$4,499.95 to \$5,499.95	Secure, wallmount ClimateCab cabinets provide a compact way to protect and cool sensitive components. Users can install the NEMA-12-rated wallmount cabinets in indoor environments where falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids would otherwise cause problems for equipment. • Compact wallmount design saves space • Operates on a standard 115V power source • Single- or double-hinged • Choose from a cabinet with a fan or an 800 BTU air-conditioning unit Best For: Equipment protection in hot, dirty environments such as factory floors. Price: \$999.95 to \$2,795.95	As one product in KwiKool's Strategic Air Center series of portable spot coolers, the SAC 1411 features micro-processor digital controls and an Easy-Touch control panel. The unit is an air-cooled, 1.15-ton portable spot cooler that operates on a 115V/15A circuit. The SAC 1411 also supports 460 CFM evaporator airflow and 1,200 CFM condenser airflow. • Provides 13,850 BTU/hr of cool air at 95 degrees Fahrenheit at 60% RH • Operates on a standard 115V power source • Operating range between 60 and 110 degrees F • Easy-access hinged panel with Kwikloks Best For: Computer rooms, server closets, or warehouse use. Price: \$3,495
Contact	(724) 746-5500 www.blackbox.com	(724) 746-5500 www.blackbox.com	(800) 972-6600 www.atlassales.com

Product	MaxPower CoolCube 10	Temp-Air Topaz TZ-18A
		
Description	The CoolCube 10 is a unique modular air-conditioning system that users can install standalone or stacked in a 19-inch server rack, above a drop ceiling, or as a portable spot cooler. Features include a programmable control panel, electronic thermostat control, and a 2.5-gallon condensate collection tank. • Can be mounted in a rack or above a ceiling or used as a portable unit • Provides 10,000 BTU/hr of cool air at 95 degrees F at 60% RH • Stackable for redundancy or added capacity • Operates on a standard 115V power source Best For: Computer rooms, server closets, and IT facilities with limited floor space. Price: \$2,600	The Temp-Air Topaz TZ-18A is a portable air conditioner that operates at decibel levels suitable for an office environment. Features include a backward-inclined plenum evaporator and condenser fans and a thermostatic expansion valve that automatically adjusts to the environment to accommodate extreme temperatures. • Provides 17,600 BTU/hr of cool air at 95 degrees F at 60% RH • Operates on a standard 115V power source • Programmable temperature controls • 1,000 CFM condenser • Runs at 63dB sound level Best For: Office environments that require a quiet-running spot cooler. Price: \$3,672
Contact	(800) 367-8675 www.spot-coolers.com	(800) 836-7432 gotopaz.com

PRODUCT SPOTLIGHT

PHYSICAL INFRASTRUCTURE

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

compiled by Andrew Leibman

MovinCool CM12



The MovinCool CM12 is a ceiling-mounted air conditioner that is just 15.5 inches tall, making it ideal for spot cooling space-limited installations and server rooms. The CM12 frees up valuable floor space and features built-in flanges and mounting brackets, letting users install it quickly and with minimal effort. The CM12 is a cost-effective spot-cooling alternative to central air conditioning.

- Provides 10,500 BTU/hr of cool air at 80 degrees F at 50% RH
- Provides 7,200 BTU/hr of cool air at 95 degrees F at 50% RH
- Operates on a standard 115V power source
- Fits into tight ceiling spaces, freeing up floor space

Best For: Space-limited equipment rooms and cramped server and telecom closets.

Price: \$2,895

(800) 264-9573
www.movincool.com/dealer.php

MovinCool CM25



The MovinCool CM25 is a ceiling-mounted air conditioner that is 20 inches tall and compact enough to fit above a drop ceiling to spot cool compact server rooms that need robust heat evacuation. The CM25 features a wall-mounted electronic controller that lets users monitor and troubleshoot problems. The unit also features built-in flanges and mounting brackets for easy installation.

- Provides 25,000 BTU/hr of cool air at 80 degrees F at 50% RH
- Provides 18,000 BTU/hr of cool air at 95 degrees F at 50% RH
- Operates on a 208/230V power source
- Wall-mounted controller with LCD

Best For: Server rooms and other spaces with high heat loads.

Price: \$6,995

(800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 12



The MovinCool Office Pro 12 is a portable spot cooling air conditioner designed to lower operating temperatures of computers and networking, communications, and office equipment to maximize reliability and hardware life span. The Office Pro 12 is self-contained and features an electronic thermostat and a programmable control panel for cooling when and where you need it most.

- Provides 11,800 BTU/hr of cool air maximum spot cooling
- Programmable digital controller
- Operates on a standard 115V power source
- No costly installation necessary
- Maintains ideal operating temperature for heat-sensitive electronics, down to 65 degrees F

Best For: Offices filled with heat-generating electronics.

Price: \$3,655

(800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 18



The MovinCool Office Pro 18 offers superior cooling capacity without requiring a nonstandard power source. This portable air conditioner protects sensitive data and electronics systems from loss and failure, acting as an insurance policy for your infrastructure. The Office Pro 18 features an intuitive control panel that lets users designate when the unit operates.

- Provides 16,800 BTU/hr of cool air maximum spot cooling
- Operates on a standard 115V power source
- Programmable controls enable weekend and after-hours cooling
- No costly installation necessary
- UL Listed for safe operation

Best For: Heat-sensitive office and data systems.

Price: \$4,065

(800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 36



The MovinCool Office Pro 36 delivers 36,000 BTU/hr of spot cooling for sensitive equipment. The Office Pro 36 features an intuitive control panel that lets users program the unit to operate after hours or on the weekend. The portable self-contained air conditioner requires no costly installation.

- Provides 36,000 ETL-verified BTU/hr of cool air maximum spot cooling
- Operates on a 208/230V power source
- Features an AFCI plug for added safety against electrical arcing
- Supports a plug-and-play condensate pump
- Easy-to-use programmable controls
- Self-contained, portable, and easy to set up and operate

Best For: Servers, routers, telecommunications, and other heat-sensitive equipment.

Price: \$6,995

(800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 60



The MovinCool Office Pro 60 delivers up to 60,000 BTU/hr of cooling capacity, making it twice as powerful as MovinCool's Office Pro 24. This portable air conditioner is designed to manage temperatures for computer networks, communications equipment, and office electronics. The self-contained Office Pro 60 is easy to install—just position the wheeled unit, plug it in, and turn it on.

- Programmable digital controller enables weekend and after-hours cooling
- Operates on a 220V power source
- Delivers 60,000 BTU/hr of cool air to the room that needs it most
- Maximizes the life span of heat-sensitive electronics by cooling environments to the low 60s F
- Condensation pump included for uninterrupted operation
- UL Listed for safe operation

Best For: Large office spaces and computer rooms filled with heat-sensitive electronics.

Price: \$11,145

(800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 63



Like its sibling the Office Pro 60, the MovinCool Office Pro 63 delivers up to 60,000 BTU/hr of cooling capacity and is ideally suited for the demands of large office spaces and heat-sensitive electronics installations. This portable air conditioner is self-contained and operates on 460V power for as little as 15 cents per hour.

- Programmable digital controller enables weekend and after-hours cooling
- Operates on a 460V power source
- Provides 60,000 BTU/hr of cool air to the room that needs it most
- Maximizes the life span of heat-sensitive electronics by cooling environments to the low 60s F
- Condensation pump included for uninterrupted operation
- UL Listed for safe operation

Best For: Large office spaces and computer rooms filled with heat-sensitive electronics.

Price: \$12,495

(800) 264-9573
www.movincool.com/dealer.php

More Enterprises Are Looking To The iPhone

Since the iPhone was introduced, it has inched its way into the enterprise market, and analysts are predicting it will enjoy a larger piece of the business-user pie in the future.

Deutsche Bank analyst Chris Whitman recently predicted that about 2 million iPhones will have been shipped for business use by the end of this year, which would give the iPhone about 7% of the enterprise market. Additionally, a survey released in October by J.D. Power and Associates had the iPhone at the top of the list in customer satisfaction for both the consumer and the business markets.

Kirk Parsons, senior director of wireless services at J.D. Power and Associates, says the iPhone was initially rejected by IT departments because of the holes in security and lack of Microsoft Exchange support. But Apple quickly adjusted and has made great strides in those areas, including adding support for Exchange.

“Clearly they learned from their initial experiences and got feedback from their business application and enterprise market in terms of what they needed to do to shore up that security hole they found initially,” Parsons says.

Parsons also cited the ability to create applications as a large contributor to the iPhone’s enterprise success and says it will only benefit the iPhone, as well as Google’s open-source Android platform, in the future in regard to the enterprise market.

“The fact that you can come up with your own applications is critical for the business enterprise units, because they have special applications and needs for each one of their businesses.”

Enterprise-Specific Apps

Whitmore estimated in his recent report that 6,000 of the approximately 95,000 applications are designed for the enterprise, which also helps to boost the iPhone’s usefulness for businesses.

Although it seems the iPhone has come a long way in the past few years, Parsons predicts it won’t continue to hit the enterprise market as quickly as it did on the consumer side. Right now, he says, the iPhone is too expensive for small to medium-sized enterprises; however, that doesn’t mean the iPhone market share won’t continue to grow.

“They still have the advantage,” says Parsons, “because there’s not another phone out there right now that matches what you can do on the iPhone.”

by Tessa Warner Breneman



Winterizing Data Centers

Cooler Temperatures Offer Opportunities For Experiments & Improved Efficiency

by Bridget Mintz Testa

DO YOU HAVE MYSTERIOUS hot spots? Hot and cold air fraternization? Obstacles under the floor and high energy bills? Winter is the best time to take on all those cooling problems. Depending on your resources, attack strategies fall into three categories: small, medium, and large.

“Winter is a good time to look at maintenance and testing of some things you wouldn’t do if it’s 105 degrees outside,” says John Pflueger, a Dell technology strategist and a board member and the technology committee chair of The Green Grid. “Also, if you’re thinking about adding capacity, it’s a better time of year to do that because the cooling systems aren’t going flat out.”

On the easy, low-cost end of things to test, aka small attack strategies, are thermostat experiments and basic best practices. “Seventy-two degrees has been standard for the cold air supply to IT

If a data center runs at 65 degrees because of hot spots that haven’t or can’t be addressed, a simple best practice can help.

equipment, but ASHRAE upped that temperature to 80.6 degrees,” says Jason Schafer, senior analyst for data centers at Tier 1 Research. “Allow the temperatures to rise in a data center.” Schafer says that raising data center temperature from 72 degrees to 75 degrees is fine.

If a data center runs at 65 degrees because of hot spots that haven’t or can’t be addressed, a simple best practice can help. Where you have penetrations into the raised floor, “put a panel over them to seal up the holes that are letting hot air in,” Schafer says. Where possible, remove blockages beneath the floor so cool air can flow properly.

Time & Effort

Middle-sized attack strategies/experiments take more resources—time, effort, and probably money. But the rewards are greater, too.

“If [a data center] is cooling down to 65 degrees, they need to . . . get out on the raised floor and see the situation,” says Vince Renaud, a principal consultant with The Uptime Institute. Renaud recites a list of offenses: perforated tiles over hot areas, cable blockages, incorrectly installed racks, IT equipment pulling air in from the hot aisle and blowing exhaust into the cold aisle, leaving unused cable spools under the raised floor, and placing air cooling units so cool and hot air mix.

“A single opening beneath a cabinet does huge damage to the static air pressure,”

- Key Points
- Winter is the best time to add capacity or experiment with reducing energy in data centers.
 - Implement best practices to achieve small and medium-sized winter improvements.
 - Data centers can be retrofitted to use outside air, but it can take a year or two and requires specific expertise.

says Julian Kudritzki, vice president of development and operations for The Uptime Institute. “The air beneath the raised floor should go through the perforated tiles into the cool aisles.”

To correct all these problems, Renaud recommends scanning the data center with an infrared sensing gun to find hot spots. “Make a map and figure out what to do about it,” he says. “Be a diligent, observant

site manager instead of spending unnecessary dollars on manufacturers’ equipment.”

Big Attack Strategies

Big attack strategies can cost a lot and take a year or two, but the long-term payoff is commensurately larger. “Longer-term things have to do with free air,” Pflueger says. So these “winterizations” involve retrofitting a closed-system data center to use free air. This definitely demands an expert firm, Pflueger says.

One retrofit “could be as simple as new ducting on the roof,” says Michael

Patterson, chair of the technology and strategy work group of The Green Grid and Intel’s thermal architect. The idea is to install new ducts so IT equipment exhaust air flows out to the roof, and outside air is brought back in for cooling.

You also want to be able to switch back to a closed system if the outside air becomes too cold. “You’d need more filters and controls,” Patterson says, “but it’s a viable option as long as the data center isn’t in the center of the building.” The Green Grid’s Web site (www.thegreengrid.com) has maps that show total daily hours that sites in North America, Europe, and Japan can rely on outside air in different seasons.

For water cooling, a company could indirectly use the building AC system to cool data center water. As an example, water exits the building AC system at 70 degrees. Then it travels to the building chiller that cools it to 45 degrees. A data center, however, only needs 55-degree water.

“So you can install secondary loops with the outside air and let it cool the data center water down to 55 degrees via a radiator,” Patterson says. That is, instead of running the 70-degree AC water directly back to the data center and cooling it there, insert a secondary loop in the building AC system to expose some of that water to outside winter air via a radiator. Let that air cool the water to the desired 55 degrees and then pipe it back to the data center.

Using retrofit techniques such as these two—and there are many more—Patterson and Pflueger say data centers could drop from a power usage effectiveness ratio as high as 2 down to 1.5 or 1.4.

Before trying any of these “winterization” tricks, remember this maxim from Renaud: “Data centers and change should be taken in context of the business case and availability requirements,” he says. “Discussions of data center efficiency and drawing in outside air must happen in the context of availability and reliability.”

Chilling Out Hot Spots

Winter is a good time to also check your data center for hot spots. If your data center has hot spots that can’t be easily eliminated, a couple of relatively inexpensive solutions are available from MovinCool, a brand of DENSO Corp. The company sells both the rolling, temporary Office Pro and the permanent ceiling-mounted CM12 and CM25 units.

“You can roll an OfficePro in and use it immediately,” says Eddie Stevenson, MovinCool’s commercial and industrial systems marketing manager (www.movincool.com). Cooling capacity of OfficePro units ranges from 12,000 to 60,000 BTU, and the list price goes from \$3,495 to \$12,495. They’re effective in emergency situations, countering heat build-up in a data center inside a building or when new equipment has exceeded existing AC capacity.

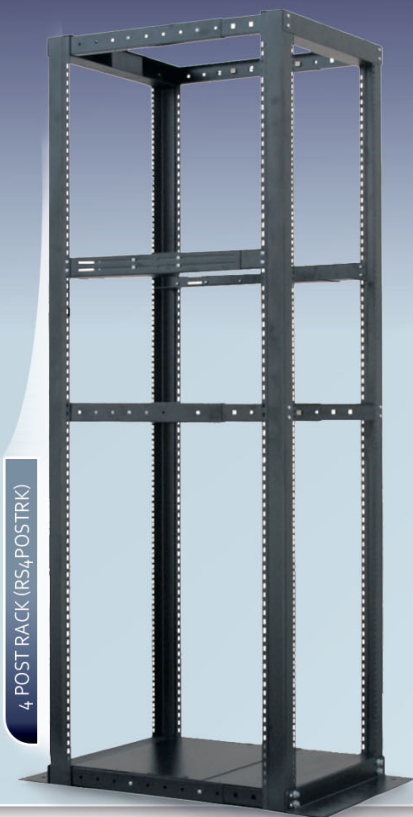
MovinCool’s 10,500 BTU CM12 can cool a server closet. The 25,000 BTU CM25 is sized for larger areas, such as small server rooms or hot data center islands. Advertised prices are \$2,786 for the CM12 and \$6,995 for the CM25.

MovinCool units are RoHS-compliant and available at some 500 dealers in the United States and Canada.

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FEATURED PRODUCT

Quantifying Power Utilization

RLE Technologies' MetricWise Helps To Put The Numbers Together



by Joseph Pasquini

NOTHING MAKES AN argument more compelling than the presentation of cold, hard data. As the somewhat clichéd but still almost always applicable maxim states, “What gets measured gets done.” Although this adage is usually viewed as a prerequisite for successful workplace management, the concept also has an equally potent role to play when it comes to the effective assessment and utilization of data center resources.

Especially in light of today’s economic climate, the rising costs associated with data center power and cooling present themselves as two of the biggest concerns facing today’s organizations. Mounting energy costs, coupled with continuously strained IT budgets and growing mandates to minimize environmental impacts, are forcing managers to reassess their existing data center infrastructures in an effort to find greater operational efficiencies. The new reality is that these operational expenses need to be properly understood and controlled prior to the establishment or expansion of any data center environment.

Setting Benchmarks

Energy consumption metrics can be used to motivate an organization toward implementing greater power efficiencies within the data center. Such data also provides a baseline measurement for future comparisons. But how are these metrics gathered? Unfortunately, many data center managers have no idea how much energy their facilities consume, let alone how to accurately measure the consumption.

The Green Grid (www.thegreengrid.org), a nonprofit trade association of IT professionals seeking to significantly raise data center energy efficiencies, has developed two formula-derived metrics intended to help data center managers quantify, analyze, and improve energy utilization: PUE (power usage effectiveness) and DCiE (data center infrastructure efficiency). Based upon IT equipment power in relation to total facility power, these two interrelated metrics have quickly established themselves as accepted standards since their introduction only a few short years ago.

Putting Theory Into Practice

Although the PUE/DCiE metrics are relatively straightforward in theory, collecting the data in a timely and systematic manner can be both a time and resource challenge for many data center managers. In the past, obtaining these two metrics was often a complicated process requiring the deployment of expensive, intricate solutions. Recognizing this dilemma, RLE Technologies (www.rletech.com) developed

MetricWise, a cost-effective, easy-to-deploy Web-based appliance designed to automatically collect metered information used for dynamically calculating an organization’s PUE and DCiE.

Based out of Fort Collins, Colo., RLE Technologies has more than 24 years of experience in the development and manufacturing of water leak and environmental monitoring systems for a wide array of facilities and related infrastructure.

“MetricWise is the first metric monitor of its caliber on the market for consistently measuring power utilization effectiveness (PUE) and data center infrastructure efficiency (DCiE),” says Jefferie Mitchell, a communications specialist at RLE Technologies, who adds that MetricWise makes gathering this important benchmark information a simple task.

“We developed MetricWise because we saw a need for change in the way energy metrics are measured,” says Mike Orlich, RLE Technologies’ CEO. “We believe that there is a strong need among our clients for an intuitive solution that helps promote more efficient practices in data centers.”

Hardware Details

Intended to be placed directly within a data center, MetricWise (\$635) is designed to acquire data readings from three-phase power meters—ranging from 100 amps to 2,400 amps—attached to a variety



of equipment scattered across the data center at key power locations. Up to 10 power meters may be associated with each individual MetricWise monitoring appliance; the meters start at \$1,015.

Using a Web-based dashboard presentation, MetricWise’s system interface features dynamic gauges, charts, and graphs to help baseline, improve, and measure outcomes of various greening efforts. In addition, up to two years’ worth of historical data readings can be viewed and exported for conducting PUE and DCiE trend analysis.

MetricWise sports a single 10/100BASE-T Ethernet port for connecting the monitoring device to a data center’s administrative network. Supported protocols include standard TCP/IP, SNMP, TFTP, and HTML. BACnet/IP and Modbus TCP/IP are also supported and allow for easy integration with other management systems. MetricWise can be connected via the device’s 9-pin EIA-232 interface port to a PC or laptop for initial configuration as well as firmware downloads and troubleshooting. MetricWise can also function

as a Modbus slave via the appliance’s onboard two-wire EIA-485 interface port.

Comparing Data

According to Mitchell, data centers need to compare their PUE and DCiE data against other equivalent sites in order to properly determine efficiencies. This comparison, though, can be hampered due to a lack of uniformity between data centers and how their measurements are obtained and catalogued. “With no standard equipment or processes implemented to monitor these factors, it’s hard for one data center to compare their efficiency from one point to another—there is no standard,” says Mitchell.

According to Mitchell, MetricWise solves many of the difficulties commonly associated with estimating, determining, and comparing utilization data. Thanks to the appliance’s real-time measurements, its interface provides users with a mechanism for comparing their data center metrics against other data centers using consistent measurement standards. “Unlike current products on the market, MetricWise solves the issue of companies estimating their PUE or determining PUE solely based upon nameplate data,” says Mitchell.

With the optional ability to post data to RLE’s PUE community Web site, users can go to a single online location to see how their data center ranks among other similar operations. The site lists PUE and DCiE information for participating data centers and allows users to discuss and collaborate on improving energy efficiency, Mitchell says, adding that with MetricWise, the company aims both to standardize measurements and to build a greener and more environmentally aware community of data center operators.

“Unlike prior methods, MetricWise provides consistency when measuring PUE and DCiE,” says Matt Lane, chief operating officer at RLE. “Now when users compare their efficiencies with other data centers, they know they are comparing the same standard measurements.”

RLE TECHNOLOGIES
METRICWISE

(800) 518-1519
www.rletech.com

Description: MetricWise is a data center appliance that collects real-time information necessary for dynamically calculating PUE and DCiE utilization data.

Interesting Fact: RLE Technologies maintains a database listing the energy use metrics of participating data centers; to compare your data center’s metrics, go to www.rletech.com/metricwise.

Windows 7 Zero-Day DoS Attack Confirmed

Proof-of-concept code that can crash Windows 7 (32-bit and x64) and Server 2008 R2 (Itanium and x64) has been publicly posted, Microsoft has confirmed. Owing to a bug in Microsoft’s Server Message Block versions 1 and 2 (SMBv1 and SMBv2), a remote attacker running the code could deny service to systems running one of the two OSes but cannot take control of the systems or install software on them. At press time, Microsoft was recommending vulnerable users block TCP ports 139 and 445. Non-R2 versions of Windows Server 2008 are not affected.

Avaya/Nortel Deal Approved

The \$900 million deal that will allow Avaya to take over Nortel Networks enterprise solutions has been accelerated by the Canadian Competition Bureau, which approved regulatory measures, and the United States, which granted early termination of the antitrust waiting period that is usually required. Avaya anticipates that the deal will close in December once other regulatory reviews are completed. In addition to the total sale price, Avaya is also paying about \$15 million on an employee retention program and indicated that it will support Nortel products for up to five years.



Intel, AMD Reach Antitrust Settlement

Chip maker Intel has agreed to pay \$1.25 billion to settle a long-running antitrust case with its smaller rival, AMD. The settlement covers both patent and antitrust claims, ending a private antitrust lawsuit that AMD filed against Intel in 2004. AMD claimed that Intel punished computer manufacturers that bought chips from AMD and rewarded those that bought from Intel. Under the agreement, the companies will cross-license each other’s patents for five years, and AMD will be allowed to have other manufacturers build its processors. Despite the agreement, Intel still faces antitrust problems with regulators in Europe, Asia, and the United States who say Intel’s marketing tactics have hurt competitors and forced customers to pay higher prices.

Gartner: SaaS Revenues Up About 18%

According to new research released by Gartner, the worldwide SaaS revenue is predicted to be \$7.5 billion this year, which is a 17.7% increase from 2008. However, Gartner downgraded its initial 2009 forecast of \$8 billion. The market is expected to show consistent growth through 2013, with that year’s revenues predicted to be \$14 billion, which is also down from the earlier forecast of \$16 billion. The report found that two markets currently have the largest amount of revenue—CRM and CCC (content, communications, and collaboration)—which together total \$4.9 billion.



HOW TO

Pick The Best UPS Solution

Evaluate Your SME’s Needs

by William Van Winkle

• • •

NO ONE DISPUTES THAT UPS systems are an essential part of any data center’s business continuity planning. However, selecting the right UPS involves weighing everything from runtime needs to long-term scaling.

UPS Type & Availability

Reaching any backup power decision starts with determining how much power is needed across all necessary storage, server, and network resources. Traditional UPSes were centralized—one big, fully loaded, high-capacity box with octopus cabling routed to an array of servers—whereas newer solutions might involve putting one UPS in each rack; each of these UPSes, in turn, network back into a central management system that admins can use to track battery levels and remotely control tasks. Between these two extremes sit centralized but modular products, which are essentially high-capacity shells that managers can fill up with batteries over time as scaling is needed.

Although a more modular approach might seem smarter because it allows organizations to simply pay capital expenditures as needed rather than all up-front, this benefit must be weighed against availability needs. The more pieces a solution has, the more possible failure points there are.

“Even 29 hours of downtime annually is the equivalent to a seemingly high 99.67% availability rating,” says Darin Stahl, lead analyst at Info-Tech. “Ecommerce-heavy companies may be required to provide as high as 99.995% availability, which is a scant 24 minutes of downtime per year. In such cases, the enterprise will need more and better UPSes.”

Part of creating a “better UPS” might involve implementing redundancy, as in an N+1 configuration, but this obviously adds expense that should be weighed against downtime risk. Also figure heat into the equation. A rack-mounted UPS will add more heat to its rack, and this may require additional cooling costs.

Runtime & Tech Alternatives

One of the toughest decisions data centers face when designing a UPS solution is

estimating needed runtime. The norm for enterprises averages between 10 and 20 minutes, but many experts agree that five minutes, and probably even two, is sufficient. The real role of a UPS system is to carry a data center through from power loss to generator startup, and if the generator isn’t up and running in a minute or so, then having additional minutes from a UPS isn’t going to magically fix a defective generator. Organizations can burn considerable cash by maintaining excessive and unnecessary UPS runtime.

Given that shorter runtimes may be all a data center truly needs, flywheel-based backup products could make sense, especially in larger organizations. Because flywheel UPSes use rotational inertia (kinetic energy) rather than batteries, they’re far easier to maintain, don’t require special ventilation, and have no hazardous material disposal issues. However, flywheel technology has much higher initial costs. The key advantage with flywheel is that it remedies the many tiny power losses data centers sustain over the course of a year. A loss of more than two seconds will cause a battery-based system to cycle, which reduces the longevity of the battery. This is why UPS batteries typically have to be replaced after only 24 to 36 months. During micro-outages, though, a flywheel system hardly registers a blip and won’t fall prey to admins having accidentally overlooked a faulty battery.

According to flywheel UPS manufacturer Active Power (www.activepower.com), flywheel UPS runtimes average between 15 and 90 seconds, depending on model and load. Enterprises may want to use a flywheel system to eliminate transient battery cycling and extend conventional lead acid battery UPS investments. Other UPS alternatives include solar, fuel cell, and lithium-polymer, although LiPo isn’t being mass produced and solar is only practical in very sunny climates, such as the American Southwest.

Greener Loads

Historically, a common problem with centralized UPS solutions has been that they arrive ready to handle the organization’s projected rather than its current power needs. A data center might launch with a

maximum load of 20kW but forecast a need for 80kW in five years, so an 80kW or higher capacity would be purchased. The problem is that, like regular power supplies, UPSes have a zone in which they run at peak efficiency, typically around 80% load. Outside of that zone, efficiency suffers. When running significantly above or below this load, waste can exceed 20%.

Similarly, companies often overestimate their capacity needs, first by adding up vendor-given wattage specs, then by adding in an excessive “margin of error.” One challenge in right-sizing a UPS solution is accurately gauging true average and maximum loads, and the only way to do this is to measure loads over time, at least at the rack level but preferably from the wall.

There are also greener ways to design UPS systems in general. “There’s a tremendous push for green computing, not just out of social responsibility but also because it can save companies a lot of money,” says Dan Ayala, CyberPower’s vice president of worldwide sales. “You’ve got Gartner saying that by 2011, 70% of data centers will face disruptions because of cost, floor space, and energy consumption. Buying a better-designed UPS may not solve the whole problem, but it’ll help.”

Add It Up

Data centers planning a new UPS deployment should determine from their industry’s expectations and their own service-level agreements how much uptime must be maintained. This information will help decide if a centralized or modular UPS approach makes the most sense. Next,

Key Points

- The type of UPS appropriate for a data center—centralized or modular—will be determined by factors including scalability, energy efficiency, long-term TCO, and availability requirements.
- Rather than overestimate and pay for unnecessary runtime, be realistic about cutover times from battery backup to generator power. If the generator fails, will another 10 minutes really help?
- Consider alternative, green UPS technologies, such as flywheel backup solutions and UPSes that integrate ways to lower energy consumption. These could help lower long-term costs.

define exactly what systems will need to be protected by the UPS solution and then analyze these to find the average and maximum energy draw. Identify a suitable, easily managed UPS product sized for this draw level, targeting average draw in the UPS’ peak efficiency zone. Info-Tech’s Stahl recommends that “when oversizing UPS capacity, target 75% of the peak power and cooling load. The costs associated with a gross overestimation in oversizing will be extremely high, likely running the project over budget.” If the UPS solution integrates green technologies for added energy savings, even better. Be sure to examine conventional lead acid options and alternative technologies both as a potential primary backup source or as a way to help extend regular battery longevity. [E]

DRAYTEK VIGORIPPBX 3510

NEW PRODUCT

Save Time & Money With Unified Communications

DURING A CHALLENGING economic situation, enterprises of all sizes need to find a way to do more with less. One way to achieve that is by finding a cost-efficient IP PBX solution that can serve as a unified telephony communications system for your enterprise. Such systems have been shown to save time and money related to installation and daily communications costs.

DrayTek, the professional networking and IP telephony solution provider, continues to develop products that are designed with high integration, reliability, and quality in mind. VigorIPPBX 3510 is the newest release of the IPPBX solution, which provides users with SIP/PSTN and even ISDN trunking over IP.

Your enterprise may already have a conventional PBX for your company’s PSTN calls. Like its PSTN cousin, an IP PBX (private branch exchange) is a switching media to receive, route, hold, take voicemail, or manage calls that arrive over the Internet and is based on true IP rather than PSTN.

VigorIPPBX 3510 can help to automatically route incoming calls from a

main IP phone number to any SIP end points, either IP phone numbers or analog extensions. While a PSTN PBX connects many incoming and internal phone lines through a set of mechanical



DrayTek VigorIPPBX 3510

A solid choice for a unified communications system that can help enterprises save time and money.

or electronic switches, an IP PBX is mechanically simpler, typically either software that resides on a server or a small, independent server that connects with your existing data network.

The VigorIPPBX’s comprehensive SIP extension design lets users expand intranetwork telephone users among different physical network areas or Internet groups. Also, its data networking features help the enterprise build up reliable Internet access and the basic network communications infrastructure with the included security/firewall and VPN mechanism.

TOP TIPS

- According to Info-Tech analyst Darin Stahl, blade shops must beware of heat issues. “Any data center using (or planning to use) blades should avoid rack-mount UPSes, as they will introduce more heat in an already hot and crowded rack space.”
- UPS loads will skew upward over time if IT staff

start plugging unplanned devices into them. This can include everything from lighting to new PCs. Extra load can come back to bite the data center when it needs backup protection most, and it can have an impact on the UPS power efficiency. If IT expects unplanned load additions to occur over time, plan for the

extra capacity when purchasing the UPS.

- Complete all server room consolidation and power-saving measures before tackling a UPS selection. “Green makeovers” can cut data center energy utilization by 40%, allowing for lower-capacity backup power systems.

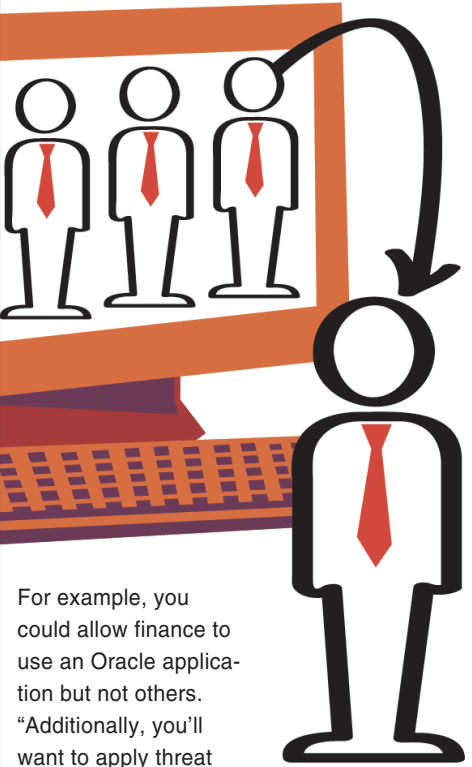


Dealing With Social Networking Growth

Social networking and collaborative applications are now commonplace in many enterprises, and according to Palo Alto Networks' recent Application Usage And Risk Report, these are being used for both personal and work-related use. However, the study also noted that "many of the users do not take into account the business and security risks that these applications present."

Create Usage Guidelines

If you haven't already, now is the time for IT staff to establish policies for secure usage. Matt Keil, marketing manager for Palo Alto Networks, says, "IT staff will need to get very specific with the security policies around the applications and users within the data center. You'll want to make sure that the crown jewels of the company—the critical data—is secure [and] that you're putting layers of security around it."



For example, you could allow finance to use an Oracle application but not others. "Additionally, you'll want to apply threat prevention to that traffic as it goes in and out as well as data filtering to look for data patterns that are coming out of the data center. Finally, you'll need to look for rogue or misconfigured applications, such as SSH tunnels, because end users are now using many remote tools to access their machines outside the corporate world," says Keil.

Chris King, director of product marketing for Palo Alto Networks, says: "For some organizations, the threat of SSH tunnels is a significant concern, and many organizations that we talked with were shocked and surprised that workers have trusted SSH tunnels going directly to the data center."

Palo Alto Networks suggests that you use a firewall that ties into the company's Active Directory, where the policies would allow employees to use the Web tools—with security scanning and filtering—but block specific features of the Web-based tools that could prove troublesome, such as Facebook applications.

As far as frequently accessed sites and applications, the fall 2009 report found that Twitter was the most popular (89%) instant messaging application, and it was up 35% from the report Palo Alto Networks issued in the spring of 2009. Also, Facebook mail is used nearly as often as Yahoo! mail, Gmail, and Hotmail.

by Nathan Lake

Improve Application Performance

Resolving Issues Before End Users Are Affected

by Chris A. MacKinnon

WHEN USERS COMPLAIN about slow or freezing applications, IT and data center managers find out sooner rather than later. But according to a report from Aberdeen Group, "Benchmarking Network And Application Visibility," some companies deliver an 83% success rate when resolving application performance issues—before end users are affected.

Jeffrey DeBarros, senior research analyst at Aberdeen, says application performance is very important in the small to midsized enterprise. "SMEs may have

network or application performance-related challenges."

Improving real-time and automated alerting abilities is also key, says DeBarros. "This is about identifying events and moving toward being proactive. Knowing when network and application performance have fallen below acceptable service levels is important for organizations seeking to improve the availability of applications and network infrastructure."

DeBarros says you also have to consider a wider adoption of capabilities when monitoring performance. He elaborates, "Organizations must be able to prioritize and identify new problems on an ongoing basis, whether by providing business context or placing self-learning mechanisms. Organizations should focus on monitoring and report on critical business transaction performance details." He says priority-based reporting tactics ensure that network and application visibility achieves its main goal: to mitigate the disruption of business processes or application services.

Beyond Performance

Ed Colonna, vice president of marketing for Precise (www.precise.com), is convinced that performance has moved beyond just managing an application's performance. He explains, "It's become about managing transaction performance. This is what is vital to any business. Business requirements have moved beyond applications to more and more automation. The application is just a piece of the customer experience." Colonna says managing the transaction cuts across all of the IT silos and helps to eliminate over-provisioning and bad performance, all while meeting ever-increasing business SLAs.

He points out that there are three main tenants to TPM (transaction performance management): transparency, resolution, and prevention. "If you prevent the problem," he says, "you guarantee that end users will not be impacted. We spend most of the time chasing solutions to problems. But IT needs to drill into the transaction path to see detailed root-cause information to solve performance problems quickly."

Nip It In The Bud

According to DeBarros, data center managers should consider implementing appropriate monitoring and event

notification solutions. "A good solution will have a flexible method to collect data and provide the ability to baseline network attributes and applications that need monitoring: be it a nonbusiness critical application, a critical application transaction, or the availability of bandwidth for an application to function properly," says DeBarros. In Aberdeen's report, 52% of best-in-class companies were capable of providing real-time alerts when performance fell below defined baselines. DeBarros says it is important for organizations to define what the expected performance is under normal operational conditions.

There are many approaches that end users can take once they understand the baseline. DeBarros says organizations should implement tools that enable thresholds for performance monitoring. He says those thresholds should be linked with notification capabilities to communicate to support resources that performance is no longer at expected levels. Getting to this point, he says, can help organizations identify problems, determine an appropriate work-around, or resolve the issue prior to end users being impacted. In addition, DeBarros says it's always good to prioritize. "Managers need to work with application owners to define the key attributes of the applications that need to be monitored," he says. DeBarros says that IT and data center managers need to identify the most critical applications that need monitoring. "Communication is the key. Managers need to talk with application owners to identify their application requirements, service levels, and how important the application is to the critical operations of the business," he says.

And if you're considering moving your applications to virtualized environments or the cloud, Colonna says it is essential that data center managers consider performance and managing the environment properly. "While we are not seeing companies moving mission-critical applications to virtual environments just yet," Colonna says, "we believe in the benefits of doing so if IT is managing them properly. Just something to keep in mind when looking to take advantage of the cost benefits of cloud and virtualization adoption." Without making sure those applications are performing, he concludes, you risk costing your company far more than any savings you may have garnered. 

Performance Affects The Bottom Line

Managing performance is extremely critical to SMEs because every transaction is proportionally more important when you are relying more heavily on automation and outsourcing. Ed Colonna, vice president of marketing for Precise (www.precise.com), says oftentimes, SMEs do not have expandable budgets, so they have to do more with the same. Resources are sometimes limited, so the performance of those resources plays a key role in lowering TCO and meeting SLAs. It will always cost you less to optimize what you have than to deploy, develop, or purchase more.

Key Points

- Understanding the health of the network is a prerequisite to determining whether application problems are due to network or application performance-related challenges.
- For organizations seeking to improve the availability of applications and network infrastructure, it is important to know when network and application performance have fallen below acceptable service levels.
- Performance thresholds should be linked with notification capabilities to communicate to support resources that performance is no longer at expected levels. Getting to this point can help organizations identify problems, determine an appropriate work-around, or resolve the issue prior to end users being impacted.

smaller IT staffs and technology budgets, so the choices they make for network and application visibility tools are very important. Some SMEs may opt for tools that fit a subset of what they truly require, so they have to prioritize," says DeBarros. "Our report found that only 30% of industry average companies saw the need to assess the impact of network and application performance initiatives on end-user satisfaction. This is an area where small and midsized businesses should consider deploying a toolset that enables this capability."

Tricks Of The Trade

A few good tips and strategies can go a long way when improving application performance in the enterprise. The first thing IT and data center managers need to do, in DeBarros' opinion, is gain a real-time view of performance by visualizing network traffic, flow data, and application transaction details. He comments, "When smaller companies have this ability, it enables granular analysis of each important application flow on the network. The ability to understand the current health of the network is a prerequisite to determining whether application problems are due to

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Reliable Network Troubleshooting & Observation

Network Instruments Knows That A Healthy Network Is A Happy One

by Holly Dolezalek

NETWORKS ARE like children: There are days when they behave the way you expect, and there are days when they do anything but. Network Instruments makes software and hardware for companies that want to keep a watchful eye on their networks—and occasionally figure out what’s wrong with them.



Network Instruments (www.netinst.com), headquartered near Minneapolis in Minnetonka, Minn., is perhaps best known for its Observer platform. Observer is a software platform for network analysis and troubleshooting. It’s capable of analyzing applications for performance issues or slow response times, security forensics, and VoIP analysis. At present, the company has about 62,000 licenses for Observer in the marketplace, which translates to about 20,000 customers worldwide.

President Douglas Smith and CEO Roman Oliynyk founded the company in 1994. That year, the company began selling the first version of Observer; it’s now up to version 14, which translates to about one new version each year. The company has more than 100 employees in 20 locations worldwide, most of which are sales offices with a salesperson and support engineer at each office, in cities such as Chicago, Boston, Denver, Detroit, and Los Angeles. The Toronto office includes both a sales and a development team, while employees in the London office do all the European repair, tech support, sales, and other functions.

Observer & Its Friends

The Observer platform is the company’s flagship product, but it also offers several tools that can collect network data in different or complementary ways. For example, the company offers GigaStor, which is like a TiVo for networks: It’s a piece of hardware best

described as a network recorder that runs Observer, captures packet information, and allows the user to analyze network data after the fact.

Another application called Link Analyst works with Observer to analyze more than just the live data. It queries devices on the network and reports back on the results. “Observer can tell you how many packets go by, but Link Analyst can tell

you the processor utilization on those packets,” Smith explains. “It’s two types of data. We like the analogy that while Observer can sit on a bridge and count the number of cars that go by and say how many were red, blue, or white, Link Analyst goes to the toll booth and asks how many have actually gone by in a certain time frame.”

Finally, Reporting Server is a standalone device that aggregates data from Observer, Link Analyst, and GigaStor.

The Market For Troubleshooting

Network Instruments neatly straddles the marketplace horizontally, in that it has something for the smaller companies and something for the large enterprises. In the small to medium-sized enterprise market, many Network Instruments customers just buy licenses for Observer, as their networks are often not big enough to require the more involved solutions. “The smaller entities buy our software and use it to collect network data using their existing hardware,” Smith says. “The bigger enterprises tend to buy our hardware-based solutions.”

Vertically, Network Instruments does well with companies that have networks with many sites. That includes agencies of the federal government, especially the military, but it also includes financial companies, whether on the banking or the trading side. “Financial companies often want to analyze their data for slow or failed transactions, particularly on the trading side, where they want to find out why a trade was slow, and on the credit card side, whether they want to find out why authorizations are going slowly,” Smith says.

About 60% of Network Instruments’ sales come from within the United States, while the remaining 40% comes from European sales (30%) and the Pacific Rim (10%, mostly from Japan and Korea).

In the United States, about 30% of the company’s sales go through its sales force, while resellers conduct the other 70%. The company’s software is also listed in national software catalogs such as CDW’s.

Outside the United States, a network of distributors and resellers conducts all

sales. “The U.S. market other than direct sales is a one-tier channel, where we go through dealers,” Smith explains. “But outside the U.S., we sell through distributors, who have their own network of resellers, who sell to end users.”

Keeping Up

Networks are getting faster, and that’s good news across IT. But for Network Instruments, it means the company has to work hard to keep up. “The move from 1-gig networks to 10-gig is on the way, and that means not only faster networks but more data traveling over those networks,” Smith says. “For us, that means a lot of engineering to make sure our products can keep up.”

It also means keeping up in the “expert systems,” or the code that sorts through the network data that Network Instruments products collect and automates the troubleshooting function. The mounds of data that faster, bigger networks generate

NETWORK INSTRUMENTS

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- Network Instruments specializes in software and hardware solutions that help SMEs analyze and troubleshoot their data centers’ networks.
- The company’s GigaStor appliance lets admins rewind network activity to study disruptions or snags in connectivity.
- “The smaller entities buy our software and use it to collect network data using their existing hardware, [and] the bigger enterprises tend to buy our hardware-based solutions,” says Douglas Smith, president of Network Instruments.

tend to take that problem-solving ability out of the hands of ordinary human beings, and Smith says that there are fewer people all the time who can go through network data and figure out what’s wrong.

Protocols present a challenge, as well. “We do a lot of business with companies who need to monitor their voice over IP phone systems, and the protocols for phones from different manufacturers to talk to each other change rapidly,” Smith says. “There are also new protocols all the time for Web transactions, and we have to keep up on that, as well.”

The world of networking is also adding new wrinkles to the very concept of the network, which means new wrinkles for Network Instruments. Cloud computing and virtualization are two developments that are redefining the company’s responsibilities, in that its products not only have to analyze network data but also the data from virtualized and cloud applications. Cloud computing is really just getting a foothold, Smith says, but virtualization is further along, and both environments have issues of visibility that make network troubleshooting more challenging. “We have to keep up with all these new initiatives that make the world of computing better but also make it more complex,” Smith says.

In order to do so, Network Instruments continues to work on new features for existing software that can increase the visibility for faster networks and for more complex networking arrangements. “In this kind of business, you can’t stand still,” Smith says. ■

A Look At Network Instruments’ Products

Product	Description	Price
GigaStor Standard	Standalone device that captures packet data and can hold 2 to 12TB of data, depending on configuration	Starts at \$16,995
GigaStor Expandable	Standalone device that captures packet data and can hold between 16 and 48TB of data	Starts at \$70,000
Observer Expert	Software for VoIP and application monitoring that alerts users to network events and tracks network conversations for troubleshooting and analysis	\$2,895
Observer Suite	Observer Expert plus reporting capabilities, custom decoding modules, and external data extraction	\$3,995
Observer Reporting Server Appliance	Standalone device that aggregates network data	Starts at \$25,000

FEATURE PACKAGE

Answers To Top IT Questions

We talked with product manufacturers and other industry insiders to answer some of the most perplexing data center-related questions.

Buck The Budget Blues | 25

■ Although managing the IT budget while attempting to satisfy employees, management, and seemingly every other party within striking distance of the data center might appear impossible, there are proven methods for getting a better grip.

Take Control Of Storage Demands | 26

■ New enterprise storage issues, such as limitations on power and space, data location, and data security, are overwhelming even the most unflappable data center managers.

IT & Business Integration | 26

■ Instead of looking at IT as a stand-alone entity that is on call to handle only certain business needs, many small to mid-sized enterprises are integrating IT and business from a management and decision-making standpoint.

Effective Security Training | 28

■ When it comes to securing private data and networks, there's only so much the IT staff can do before they must rely on the engagement and support from their end users, and that means ensuring that there is a holistic and dynamic training program in place.

Buck The Budget Blues

Getting A Better Handle On Your IT Budget Doesn't Have To Be Mission Impossible

by Christian Perry
• • •

WITH PERPETUALLY limited funds driving an IT budget, fending off the constant pressure surrounding a data center can seem like driving away an army with a toothpick. But although managing that budget while attempting to satisfy employees, management, and seemingly every other party within striking distance of the data center might appear impossible, there are proven methods for getting a better grip.

"IT managers have a finite budget and finite resources, both of which seem never to be sufficient to immediately satisfy all the needs and requirements within the organization," explains Jay Weiss, consultant with

Although a manager might be adept at determining a data center's future needs, a tricky balancing act remains between those actual needs and what staff considers simply nice to have. John Burke, CIO of Ambit Energy (www.ambitenergy.com), notes that empathizing with staff by letting them know you value their input, while at the same time battling overspending, requires both people skills and technical skills.

How To Harness

One of the first steps in getting a better handle on IT budgets is getting control of your data center's technology itself. Feuless recommends managing asset life cycles in a planned and predictable way, with a regular refresh schedule that optimizes both costs and quality of service. In terms of software, he suggests drilling down the business case before rolling out new versions and to keep in mind that software upgrades can eventually spark costs in other areas, such as hardware. He also recommends directly involving the business in project prioritization.

"IT should take the role of facilitator here, providing estimates of cost and schedule, along with identification of indirect benefits and other implications of the change, such as requirements for infrastructure changes," Feuless says. "When it comes to actually setting the priorities, however, step back and let the business leadership forge their own compromises. That makes it much easier to explain at budget time why some projects are going ahead of others."

Another tip he offers is to benchmark costs against peers through the use of an independent third party and publish the results internally. This step can help alleviate fears from non-IT managers that IT is spending excessively, particularly because they don't always understand the complexities of IT and don't necessarily trust what IT tells them. The benchmark can help deliver reassurance that solutions are being delivered at costs in line with other organizations using similar technology, in turn easing the process of getting signatures on the budget.

Managing demand is another crucial step. "It's not enough anymore to just act as a service provider, delivering whatever the business asks for at the lowest possible price with the best possible service levels," Feuless says. "You have to look at that request for a new server and say, 'Can we fill this need with existing equipment, perhaps by

adding a virtual server instead of a physical one? Can we meet this need for more disk storage by altering the application to archive and purge new data?' The demand for new IT



Bergstrand notes that it's also critical to manage IT demand by managing the dialogue at the enterprise level to ensure that the "discretionary" IT budget targets solutions that are strategically important to the company. JGI's Weiss adds that IT managers shouldn't spend according to an arbitrary budget with no real understanding of what's driving the funded work or which projects the budget supports. The list doesn't end there in terms of what not to do.

"Don't take every software upgrade that your friendly vendor wants you to buy; take the ones that pay out and plan them," Feuless says. "Don't assume that upper management will simply trust you. Get outside help in making your business case, measuring results and comparing them to peer organizations. Don't treat the business units as outsiders. Involve them in your decision processes, share as much information with them as you can, listen to their feedback, and get them on your side." ■

Key Points

- Prioritization is a constant challenge for IT managers, who must decide what projects are truly deserving of precious budget funds.
- Understanding your technology can help you determine which applications and other systems can be phased out and which can take on additional chunks of the budget.
- Bridging the communication gap between business and IT will help ensure that IT spending accurately targets business needs.

JGI Consulting. "Additionally, managers must also balance the requirements of their internal customers—the business users—with the less-visible but required effort and expense driven by software upgrades, patches, and maintenance."

Challenges Aplenty

For IT managers attempting to corral their budgets, challenges appear in many forms. According to Scott Feuless, senior consultant with Compass Management Consultancy, dealing with change—including business demands, available solutions, and the cost of those solutions—is a big test for any manager trying to manage a budget, but it's particularly severe when it's an IT budget. Another nagging element is prioritization.

"IT always has more requests coming in than it can reasonably handle," Feuless says. "Many of these may be handled as projects and funded by a business unit, but some will also require fundamental changes in IT infrastructure that have to be funded from the IT budget. Many will be the pet projects of influential leaders within the company, and political factors will come into play."

solutions and growth in existing ones is huge, and without actively managing it in this way, it will far outstrip any cost reductions that IT can achieve through increased efficiencies."

Connect The Dots

Navigating the waters inhabited by both the business and IT units of an organization can be arduous, but those waters hold potential for harnessing an IT budget. Jack Bergstrand, CEO of Brand Velocity (www.brandvelocity.com) and author of "Reinvent Your Enterprise," suggests formally linking the organization's application architecture to its organizational structure—in other words, connecting the dots between applications and how they relate to key business and customer decision makers. This process can help IT managers determine when to discontinue less-valuable systems while boosting spending on more valuable applications.

"Another way is to take advantage of new technologies and opportunities in IT infrastructure," Bergstrand says. "Virtualization, cloud computing, leasing, offshoring, outsourcing, and upgrading equipment can usually produce excellent returns on investment. Be sure to leverage your key partners and your procurement specialists to properly manage the available options."

Three Quick Tips

Jack Bergstrand, CEO of Brand Velocity (www.brandvelocity.com) and author of "Reinvent Your Enterprise," offers the following quick tips for getting a better handle on your IT budget.

1. **Don't compromise on quality.** Lengthening refresh cycles extensively is simply robbing from the future to pay for today and is not a sustainable approach.
2. **Know your players.** Given that IT employees often feel the brunt of budget reductions, it's important for IT managers to think through who their key players are and what the company needs to do to retain and inspire them.
3. **Invest in training.** If people aren't a priority, the best people are likely to go elsewhere when the recession ends, leaving the company with a very costly hiring and training problem.

FEATURE PACKAGE

Take Control Of Storage Demands

Stay Ahead Of The Game As Storage Needs Skyrocket

by Robyn Weisman

EACH YEAR, perhaps since the days of punch cards, data center managers have had to wrestle with storage demands. What IT department wouldn't add "exponential increase in data" to such certainties as death and taxes? In a few years, worrying about a few petabytes of storage will seem quaint, much as discussing gigabyte hard drives seemed fanciful (albeit an eventuality) back in the 1990s.

Although increasing storage demands have been a concern for IT departments for decades, the issues data center managers

face have changed over the years. Today's managers no longer have to worry about whether their departments can access enough storage space for their data because the cost of storage has dropped dramatically and should continue to do so. However, new issues, such as limitations on power and space, data location, and data security, are beginning to overwhelm even the most unflappable data center managers.

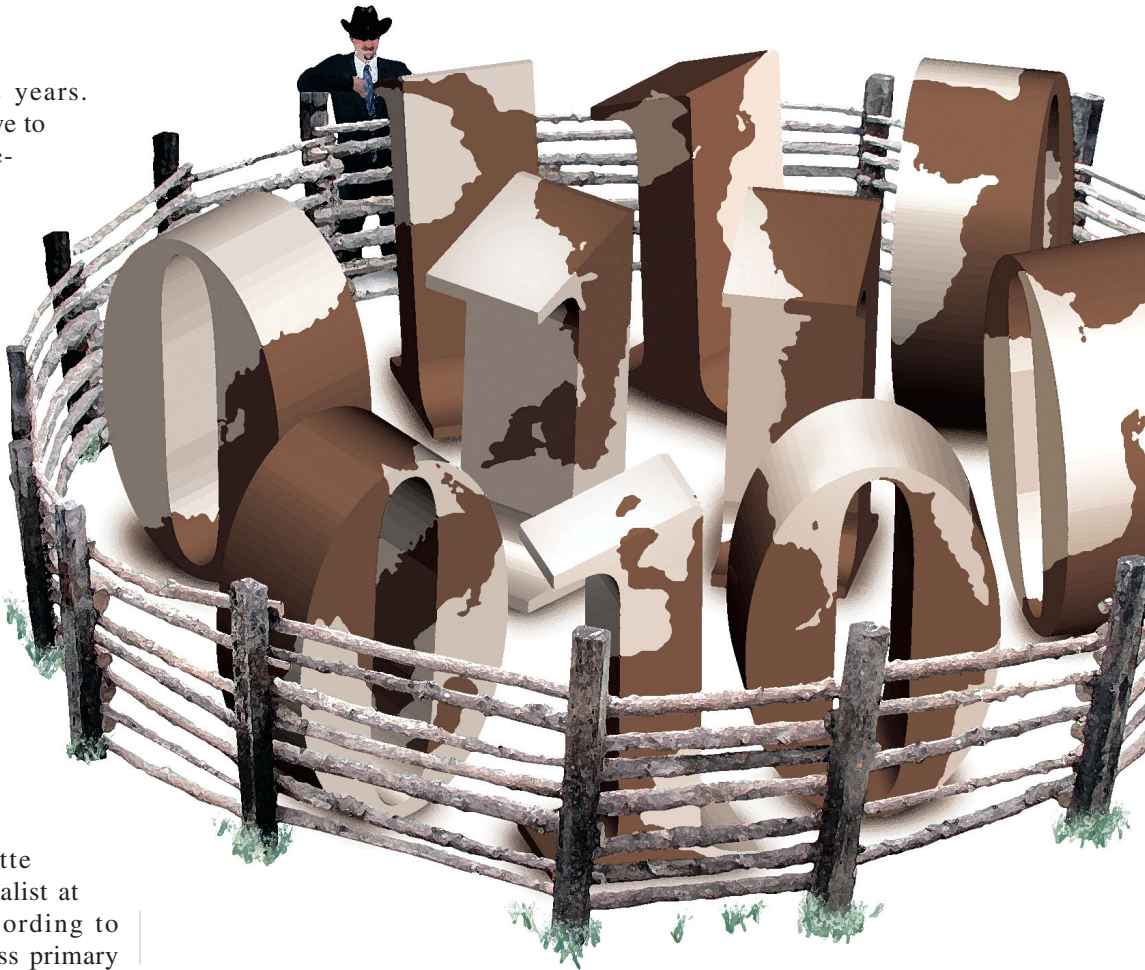
So how do you get a handle on your data center's storage? Here are a few tips to get you started.

Visualize Your Data

It's a good first step to classify your data into three separate tiers, says Charlotte Ward, enterprise storage specialist at CDW (www.cdw.com). According to Ward, Tier 1 should encompass primary

applications that require a high I/O and immediate access to the data being stored, Tier 2 should contain files that you may need to access but don't necessarily need as immediately as your top-tier data, and Tier 3 should be reserved for backup and archived data.

"There are storage management products out there that can help you get a better grasp on what you currently have in place [and] how you can get more usable space



Key Points

- Tier your data. This is especially important when you are using virtualization.
- Determine your strategy for adding 50% more capacity to your existing storage system.
- Make sure that when you choose a storage solution, you can remove your data from this system, as well as add data to it.

IT & Business Integration

Make The Case For Building A Better Business Model

by Bruce Gain

DESPITE ITS PREVALENCE in the enterprise, the IT department is often treated like it's just one of several cost centers in the eyes of upper management. Oftentimes, business managers turn to IT to handle a specific task, such as managing email or data archiving, but after the project is up and running, business choices are made without including IT decision makers.

Now, instead of looking at IT as a stand-alone entity that is on call to handle only certain business needs, many small to midsized enterprises are integrating IT and business from a management and decision-making

standpoint—and reaping huge benefits in operations efficiencies as a result. In the IT department, that means making sure that every investment solves a business need, as opposed to investing in a technology for its own sake.

"Any change [in IT investments] should impact one of three business areas: you want to lower risk, lower cost, or add more value by enabling the business to make better margins," says Clive Longbottom, service director of business process facilitation at Quocirca (www.quocirca.com). "You need to find a match that will apply to one of those three."

Day-To-Day Business Involvement

A first step in integrating IT with business operations should involve assuming that virtually every business process involves IT and communicating its role to the business managers. "Business-line managers need to have a clear idea of where they're headed and of the problems they are trying to solve and be open to IT suggestions," says Susan Snedaker, principal consultant and founder of VirtualTeam Consulting (www.virtualteam.com). "Many

times, IT will approach a problem very differently and sometimes come up with a simple, elegant solution that the business-line manager may never have thought of."

As a counter example, not including IT in the business-making process can become an issue after plans are initiated. "I've seen many companies panic at the last minute because they forgot to include IT in a decision or an initiative until it was far too late," Snedaker says.

Combining IT with business processes should also involve paying very close attention to users' needs, Snedaker says. "I've seen a lot of IT staff come at a business problem as 'we cannot do that' for one reason or another, when, ultimately, it can

be done," she says. "I've also seen a trend where IT staff says 'this is the only way it can be done,' which is completely untenable for the user and also not a viable solution. Somewhere between the perfect end user and IT worlds, there is a workable, acceptable solution [that is] maybe not perfect in either world, but serviceable."

The Cost Of Doing IT Business

The IT cost structure should also play a key role in business decisions, as IT infrastructure costs in particular are increasingly becoming more of an issue.

"Previously, when space and electricity were cheaper, you didn't have to worry as much about costs. But today, data centers

Three Quick Tips

- 1. Combine IT and business in one job.** Business managers need a better understanding of IT, while the tech guys need a better grasp on how IT decisions will improve business processes. So why not make sure that at least one person has both skills? "I'd recommend companies look at defining a position that is a sort of business/technology integrator role, who can speak business and technology and be the intermediary between two worlds that seem to collide more often than they collaborate," says Susan Snedaker, principal consultant and founder of VirtualTeam Consulting (www.virtualteam.com). "Often, project managers fill this role, and if that's the case, they need to be included and given the authority that comes with the responsibility of bridging that gap."
- 2. Create department-by-department budgets.** Itemizing how much different departments spend on IT can help to better manage costs, while making sure that IT investments are really furthering business needs, says Calvin Nicholson, director of product marketing for Server Technology (800/835-1515; www.servertech.com). "Each department often has a free ticket. In accounting, if they think they need new servers, then they just take them," Nicholson says. "But if they are billed for power out of a budget for the amount of infrastructure they use, then they probably would be more concerned about how many servers they have running."
- 3. Track and analyze.** Is there someone really tracking IT investments and costs and then weighing the data against benefits to the business? To do that, software system tools are recommended, says William Nelson, director of product management for Rackwise (www.rackwise.com). "You need modeling and data center intelligence, which can make sense of that mountain of data," Nelson says.

Key Points

- Every IT investment should have a tangible business benefit.
- Take the IT cost structure into consideration before making business decisions.
- The role of CIO is growing more important, with CIOs serving as a liaison between IT and the business.

out of the capacity you’ve already purchased,” says Ward. These types of solutions will help you visualize the location of your data, how frequently data is accessed, and whether duplicate copies of files exist in your storage network.

Virtualization & Segmentation

Data sprawl increasingly is becoming a huge headache for data centers, especially with the advent of virtual systems. “Virtualization is moving more toward compartmentalizing [an application] as much as possible . . . and tying that application to a specific set of storage resources,” explains Kevin Bocek, director of product marketing at global security solutions provider Thales (www.thalesgroup.com). “If I know this application handles my sensitive HR data, I need to take special care of that data,” he says. Unclassified data can lead to security risks, as well. “If I have an understanding of where [data is] logically or physically, I can at least better deal with some of the security issues,” Bocek says. “We’ve seen organizations have started, as with the PCI DSS (Payment Card Industry Data Security Standard), to segment off parts of their storage networks so that . . . they know where that data lives.”



Add Another 50% Or More

Although it’s a probably a no-brainer that your storage demands will continue to expand, your response to that inevitable expansion may not be as obvious. Evan Powell, CEO of software storage solutions provider Nexenta (www.nexenta.com), recommends thinking through how you will go about adding an additional 50% of storage space to your existing storage solution. “You probably know that for your traditional storage systems, the answer is to buy a new storage system,” Powell says. “But what if data growth grows two to three times as fast as you expected it to? Do you have to throw out your old system, or is there an upgrade path you can take? Make sure you have those discussions with your team.”

Add The Right Storage

Powell says it’s important to be cognizant of vendor lock-in. “Look for flexible, open solutions and be aware that once you get your data on a system, it’s often hard to get it off the system,” he says. “Once you have terabytes of data on a system, it can be a week’s time just to get the data off it—and if you’re buying from a proprietary vendor, [that vendor] may not make it easy to get your data off.” When choosing new storage solutions, Powell suggests looking for unified storage that can handle NFS, iSCSI, and Fibre Channel, among other protocols. “Do you really know what the best protocol for supporting your future storage needs is going to be today?” says Powell. “It’s much safer to choose a solution that supports all of these protocols.”

Three Quick Tips

- 1. Use encryption for mission-critical data and data on the move.** Proper data encryption not only protects customer data from identity theft, it protects your organization’s identity, as well, says Steve Wilkins, product marketing manager at Thales (www.thalesgroup.com). “When data is lost, typically hundreds of thousands of records are actually breached and can lead to additional costs associated with a loss of confidence in your organization,” he says.
- 2. Consider taking a training class on a potential virtualization product.** Charlotte Ward, enterprise storage specialist at CDW (www.cdw.com), says that many virtualization vendors now offer trial versions of their software and that ideally you want to try out the software before implementing it.

During this testing phase, Ward recommends taking a training class where a member of your staff can get hands-on experience with the product you are evaluating because that way the product becomes less overwhelming. “If you’re able to use the trial version or purchase one copy of the type of virtualization software you’re seriously considering and have gotten a chance to play around with it, you then will have legitimate environmental questions that can get answered in the class,” she says.

- 3. Consider a single, scalable VTL system.** Jay Kramer, vice president of worldwide marketing at data protection solutions provider SEPATON (www.sepaton.com), suggests VTLs (virtual tape libraries) for data backup and archiving because they not only save you on space and power, they also can simplify the complexity of your environment, particularly if it is a heterogeneous one.

are \$100 million processes,” says William Nelson, director of product management at Rackwise (www.rackwise.com). “The stakes are higher, so now you have to tie everything together and understand it all.” IT costs should especially be considered when your enterprise expands to different geographic locations, Nelson says. “You need to better understand what a move is really costing in dollars and cents for IT,” he says. “When deciding between building a data center in either Singapore or Chicago, you have to compare real estate, equipment, power, and other costs for data centers. You then can determine whether that [particular IT investment] is more efficient locally or globally.”

The CIO Rises Again

CIOs were once given near star status in the business world, especially at Fortune 500 technology firms, but they lost much of their luster after the dot-com bust in early 2000. “CIOs were thought of as strategic contributors through the late 1990s, but in the bursting of the dot-com bubble, they were, as a class, demoted to mere caretakers of the communications and computing infrastructure,” says Roger Kay, founder and president of analyst firm Endpoint Technologies Associates. “Ever since, CIOs have been trying to win their way back into the core of the business, but budgets have been tight and progress has been slow.” But today, as enterprises increasingly begin to accept the idea that it makes sense to better integrate IT with business

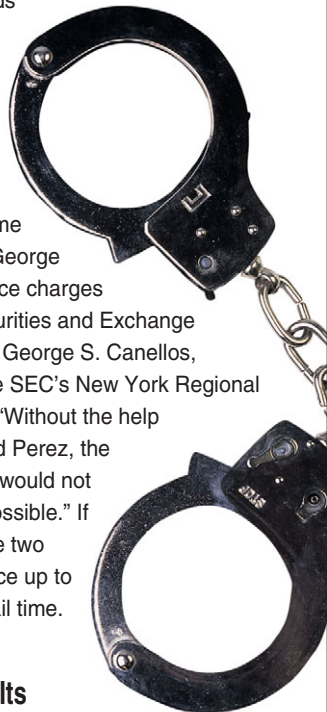
operations, the role of the head IT manager should hold more sway. An active CIO that has the same status and decision-making authority as a CFO, COO, or a similar position in the hierarchical structure can help to formalize IT’s role in key business decisions. “There are increasing examples of businesses that rely strategically on [CIOs] and IT for their success,” Kay says.”

Indeed, the CIO’s role should only further strengthen any enterprise’s business model. “If you have a savvy C-team, your CIO has an equal voice at the table and can help drive strategic deployment of technology to support—and better yet, enhance—the business objectives,” Snedaker says. “The new breed of CIO works with the CFO, COO, and CEO to help develop business strategies that leverage technology appropriate for the firm.”



Former Madoff Computer Programmers Arrested

Bernard L. Madoff Investment Securities’ former computer programmers were arrested by the FBI on charges of helping Madoff cover up his Ponzi scheme. Accused of creating the software that provided Madoff’s company with thousands of false documents for more than 15 years to cover up its fraudulent activity, Jerome O’Hara and George Perez also face charges from the Securities and Exchange Commission. George S. Canellos, director of the SEC’s New York Regional Office, says, “Without the help of O’Hara and Perez, the Madoff fraud would not have been possible.” If convicted, the two men could face up to 30 years of jail time.



Ericsson Completes Its Acquisition Of Nortel

Ericsson has completed its \$1.3 billion acquisition of Nortel Networks’ CDMA business and LTE assets in North America. The acquisition makes Ericsson a leading provider of telecommunications technology and services in North America, which is now the Swedish company’s largest sales region. With the region becoming an early adopter of LTE technology, Angel Ruiz, head of Ericsson’s North American operations, says, “Ericsson will enjoy new access to North American CDMA customers and can better support CDMA networks that will transition to LTE.” As part of the acquisition, important CDMA contracts with North American carriers, including Verizon, Sprint, U.S. Cellular, Bell Canada, Telus, and Leap, and CDMA and LTE patent licenses will be transferred to Ericsson.

Firefox Responsible For Most Browser Bugs

According to the Web security firm Cenzic, Firefox was responsible for the most browser bugs reported in the first half of this year. Mozilla’s browser accounted for 44% of the flaws. Firefox was followed by Apple’s Safari, Microsoft’s Internet Explorer, and Opera Software’s Opera browser, which were responsible for 35%, 15%, and 6% of the flaws reported, respectively. A Cenzic spokesperson says that browser vulnerabilities are just one facet of browser security and shouldn’t dissuade users from using a particular browser. Despite being the bug leader, Mozilla typically patches the issues quickly and claims that, because it is an open-source browser, it reports all flaws and fixes, whereas other closed-source browsers can patch flaws without reporting them. Cenzic also points to Firefox’s rising popularity, making the browser subject to more scrutiny from security researchers and hackers.

Google To Buy Back Shares

Not long after Google announced its intentions to acquire AdMob for \$750 million in stock, CEO Eric Schmidt told Bloomberg that the search giant wants to buy back \$750 million worth of shares using cash on hand. The buyback, an uncharacteristic move for the Mountain View, Calif., company, would serve to protect investor holdings after the acquisition. The AdMob purchase is Google’s third largest after DoubleClick (in 2008) and YouTube (in 2006).

Judge Favors Apple In Copy Infringement Case

A federal judge found in favor of Apple in its suit against Psystar, which has been selling Mac clones. U.S. District Court Judge William Alsup granted Apple's request for summary judgment and denied Psystar's counterclaim and also ruled for Apple in its claim that Psystar violated the Digital Millennium Copyright Act. "Psystar has violated the DMCA by circumventing Apple's protection barrier and trafficking devices designed for circumvention," Alsup said in the ruling. Other claims from Apple could still go to trial, such as breach of contract, trademark infringement, and trademark dilution, and the trial has been scheduled to begin next month.

IBM Builds Health Analytics Solution Center

IBM has built a center in Dallas that will employ more than 100 health analytics experts, technical architects, and specialists. The Health Analytics Solution Center is designed to help hospitals and medical staff improve their decision-making and provide higher-quality care through the growing demand for advanced analytics. Experts include IBM's Business Analytics and Optimization consulting organization and IBM Research. The center will help others decide how to take advantage of advanced computing power to collect and analyze data streaming from sensors, patient monitoring systems, medical instruments, and handheld devices. Pharmaceutical companies can also use the data to gather intelligence.



New Technologies Help Create Larger Personal Networks

A report from the Pew Internet & American Life Project found that new technologies such as the Internet and mobile phones have helped people create larger and more diverse personal networks. Previous studies have suggested that technology has made Americans more socially isolated, especially from those in their neighborhoods and voluntary associations. The report states that those with mobile phones have personal networks that are 25% more diverse than those without, and Internet users' networks are 15% more likely to include unrelated partners in their social lives. The study also says that social networking services offer a substitute for some levels of neighborhood involvement.

T-Mobile Employees Sold Customer Information

According to the UK's Information Commissioner's Office, employees at T-Mobile UK have sold private customer information to brokers, who then sold the information to other phone companies. The ICO alleges that thousands of account details were sold without the consent of the customers. Employees sold information, such as the end dates of contracts and phone numbers, so other phone companies were able to contact customers and attempt to lure them with deals to switch companies. T-Mobile has been cooperating with the government to identify the employees responsible, and no information has been released regarding which companies purchased the information.

Effective Security Training

Training End Users In Security Policies & Practices Is Essential To The Enterprise

by Sandra Kay Miller

WHEN IT COMES TO SECURING private data and networks, there's only so much the IT staff can do before they must rely on the engagement and support from their end users, and that means ensuring that there is a holistic and dynamic training program in place.

"You can't make people behave by throwing more technology at the problem, be it firewalls, malware scanners, or intrusion detection solutions," says Marcus Ranum, chief security officer of Tenable Network Security (www.tenablesecurity.com). "Security is a process and a social problem, not a technical challenge."

Shon Harris, owner and president of Logical Security (www.logicalsecurity.com), has seen that as technology becomes more integrated and complex, end users are requiring a much more in-depth knowledge, especially in regards to regulatory compliance. Unfortunately, during the downturn in the economy, Harris offers another observation: "Training is the last thing on the mind of those with the purse strings and the first thing to be axed when budgets are cut."

Even with limited resources, there are a number of things organizations can do to keep employees up-to-date on security measures.

Plan Ahead

When employee training is an afterthought, especially during a new rollout or upgrade, it often spells disaster. The nonprofit ITrain (International Association of Information Technology Trainers; www.itrain.org) estimates that companies should plan for at least 10% of a project's budget for training.

Having a game plan in place prior to the implementation of new hardware and software can also alleviate pressure from IT and help desk staff. For example, when Unisys upgraded users to Microsoft Windows XP and Office 2003, end-user training was completely ignored. The resulting strain on internal support staff was overwhelming and ultimately much more costly than a proactive training approach would have been.

For its 2009 Microsoft Vista rollout to 30,000 users, Unisys adopted a "train first, upgrade second, advanced training third"

plan. End users received a basic view of what to expect before their workstations were actually upgraded. After becoming familiar with the new software, more training was provided to expose users to advanced features they may not have utilized on their own.

Getting ahead on end-user training can also help avoid the common train wreck of having IT personnel highly qualified in their areas of expertise who are not adept at translating that information into a format conducive to a teaching environment. Too often, user training about security features and compliance issues are left up to the IT staff, and ITrain regularly encounters organizations in need of certified trainers who can provide end users with professional materials and teaching methods.

ITrain has found that standardized training materials aren't always the best solution for effective user education. "Training materials need to be aligned with the business processes," explains David Murphy, founder of ITrain, who adds that most trainers only cover the functionality of the

Three Quick Tips

1. Post hard-copy notices or informative posters of critical security issues to keep end users current.
2. Train end users to spot security issues specific to their particular job. For instance, finance employees should be educated on compliance and fraud.
3. Have multiple layers of defense in place, as even the most informed end users can also make mistakes.

equipment or software and not how it relates to the users' job functions. "Training should focus on how users can do their jobs more effectively, not just how the technology works," he says.

One-Two Punch

Security training can be broken down into two distinct segments to make it more effective—general and specific. General topics cover areas applicable to everyone, such as policies and procedures, rules for handling confidential data, and what to do in the event of a security risk or threat.

This type of information should be able to be regularly delivered in multiple formats (lecture, forum, newsletter, e-mail, Web

Key Points

- Revisit end-user policies regarding IT usage on a regular basis.
- Training should focus both on general ideas that apply to everyone and on topics relevant to more specific groups.
- Use a combination of training and technology to educate end users and enforce policies.

page, etc.), especially in environments with rapid employee turnovers.

The second tier of end-user training should be aimed at specific user groups. At this point, it may be worthwhile to engage professional services to deliver targeted user training. Not only does this ensure that specific materials are being covered, but it also removes the burden often heaped upon the IT department.

Regardless of the user training content, it's imperative that it be kept current. "Security is a moving target," says Roger Thompson, chief research officer for AVG (www.avg.com). Thompson points out that most end users are not thinking about security, especially when using the Web for user-friendly applications such as social networking. Furthermore, many of the legitimate Web 2.0 business tools are rooted in early social networking applications that were only a short time ago considered security threats and routinely blocked by corporate networks.

Security professionals suggest policies should be revisited at least twice a year and even as much as monthly for organizations bound by regulatory laws.

Mix It Up

How many times has a room full of users rolled their eyes at the same old lecture about not following links in emails from unknown senders? Drilling home the message of security doesn't have to be boring. By bringing multiple channels for learning to the table, users are more apt to retain information.

Today, there are a multitude of methods for educating end users. From simple posters placed in strategic places such as lunch rooms to interactive e-learning, organizations have much more of a variety for education. Security vendors are also providing more interactive tools and methods for education. For instance, although Thompson warns about the danger of social networking sites, he routinely posts informative information about security issues to blogs and interactive applications such as Facebook and YouTube.

One critical end-user training opportunity in particular that is often overlooked is peer training. Online forums have become popular as a method for users to share their knowledge base with each other. These types of forums can be set up internally and maintained and monitored by IT. For a more personal touch, something as simple as a voluntary session over lunch on a particular topic can spark better security practices among employees. The key to effective training is keeping users engaged and concurrent on how their choices ultimately affect the organization. ■



STORAGE

THREE QUESTIONS

A Tapeless Backup Approach

Idealstor Simplifies & Speeds Backups With Ejectable Disks

by Daniel P. Dern

• • •

TAPE IS STILL a popular backup media, but with hard drive capacities now reaching the 2TB range and per-terabyte prices continuing to decline, hard drives have become an affordable alternative.



Idealstor (www.idealstor.com) was founded in 2002 by systems integrator Nezzen Systems in response to customer dissatisfaction with tape's limits and difficulties as a backup media. The company instead uses removable/ejectable disks as media suitable for local storage, backup, offsite archiving, and disaster recovery and develops backup software designed for disk rather than tape targets.

Idealstor offers both backup hardware—Idealstor Backup Appliance—and its iBac software to companies of all types and sizes. Nandan Arora is the company's chief technology officer.

■ What are the biggest IT-related issues facing today's small to midsized enterprise?

"The biggest problem we see is twofold," Arora says. "One, the amount of data that companies have—and need to back up—continues to increase, but at the same time, the backup window

where systems can be unavailable or slower is decreasing to nonexistent. So you need to be able to back up data faster and with less impact to operations."

The second part, Arora explains, is that "every day there are new ways and technologies available to back up the data, so the question is what method or methods do I choose, and how do they and my existing methods and media fit into this?"

■ What should *Processor* readers know about your company's products?

"We make a removable disk backup system designed to offer the speed, capacity, and reliability of disk combined with the portability of tape backup," says Arora. "Mostly we compete with tape backup, some with disk. It's about not changing the process—backing up to media and sending them offsite, but now with disk, not tape."

Companies are buying Idealstor systems as an alternative to using tape for daily/weekly/monthly backup, says Arora, "and some also are using us for long-term storage for archival compliance." Idealstor's removable tape is also used as a way to avoid disk-to-disk-to-tape backups, Arora says.

Idealstor's hardware product line includes SATA- and IDE-based ejectable backup and storage systems, including the 1- to 4-bay Teralyte appliances aimed at SMEs; the 2-, 4-, 6-, and 8-bay Backup Appliances; and the FrankeNAS, which

uses half its capacity as a RAID 5 array and the other half for up to four removable drive bays. "Our hardware can work with any backup software that can back up to disk," says Arora. "We can use any 3.5-inch SATA drive from any manufacturer, of any capacity."

On the software side, Idealstor's iBac for Windows software is disk-to-disk backup software that combines native format backup, drag-and-drop restore, file-level deduplication, and consistent point in time backups of Windows databases. Idealstor also offers backup software for use with VMware and Microsoft Hyper-V computer virtualization environments. "We let you have one license per host, which makes licensing easier and less expensive," says Arora.

■ What makes your company unique?

Compared to the volatility of much of the computer industry, Idealstor's approach has been unusually stable. "We've been selling this product for seven years, and our pitch hasn't changed, just the price and capacity of the media," says Arora.

Also, Arora points out, unlike tape users, who need to get new drives or entire systems in order to use new types of tape, "A customer who bought our product three years ago doesn't have to buy a new system, just new disks. If a customer needs to go to a new disk format like SATA, we provide an upgrade path, so most of their investment is still protected, and we also provide combo systems so they can continue to use the old media." 

OVERLAND STORAGE NEOs FAMILY OF AUTOMATED TAPE LIBRARIES

NEW PRODUCT

by Joanna Safford



Overland Storage NEOs Family Automated tape libraries for cost-effective backup and archiving. Starting at \$3,995

Save Space & Resources

BACKUP AND DISASTER recovery tools are critical in any data center environment, but they can be difficult to fund and maintain on a limited IT budget. If your data center requires reliable data backup, but you know you're working with a restricted IT financial plan, Overland Storage can provide the appropriate archiving solutions to meet your enterprise backup needs.

Overland Storage is offering the NEOs family of automated tape libraries, which includes the NEO 200s and the NEO 400s. According to Richard Villars, vice president of storage systems and executive strategies at IDC, "Solutions like Overland's new NEO mid-range tape libraries will help SMEs better protect their IT investments while overcoming space, resource and budget limitations."

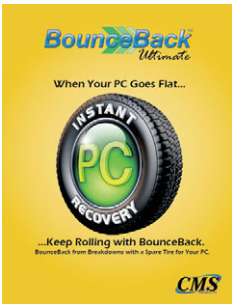
The NEO 200s, a space-saving 2U model with up to 38.4TB of storage, and the expandable NEO 400s, featuring a

4U form factor, redundant power, and up to 76.8TB of capacity, are designed for basic installation and reliable operation. The NEO 200s is offered in two models, a one-drive, 12-cartridge autoloader and a one- or two-drive 24-cartridge library. Moreover, the NEO 400s comes with up to four tape drives and up to 48 cartridges and features disk-based backup and partitioning capabilities, making it ideal for more data-intensive environments.

Together these NEOs solutions offer full Web-based remote management and diagnostics, fast media tracking (via integrated barcode reader), user-configurable mail slots, and data encryption for business-critical compliance. SCSI, SAS, and Fibre Channel configuration support for high-speed data transfers is also included. Each offering also uses HP LT03 and LT04 tapes that are designed for movability and efficient upgrades.



(888) 343-7627
www.overlandstorage.com



Simple & Quick Backup & Recovery

CMS Products BounceBack Ultimate

by Seth Colaner

• • •

EVERY DATA CENTER employee knows the necessity of backup and recovery solutions. CMS Products' BounceBack Ultimate is designed to be a "digital spare tire" for PCs, allowing users to back up and restore the entire contents of a PC, including applications, data, personal settings, operating system, partitioning, and formatting.

Features include Instant PC Recovery, which lets users start up a PC from an external USB hard drive in case the operating system or hardware malfunctions, and instant One-Button Recovery, which is a simple and direct way of restoring a PC hard drive without the need for reinstalling anything. The QuickRestore function also lets users quickly restore specific files and folders.

Other features include CDP (Continuous Data Protection), a function of BounceBack Ultimate that continuously keeps new or modified files up-to-date; the ability to let BounceBack Ultimate run its processes in the background so users can continue to work while the program takes care of business; and easy-to-configure AES 256-bit en-cryption to secure your data from prying eyes.

BounceBack Ultimate also lets users back up to multiple media, such as an external hard drive or network drive, simultaneously so users can have multiple concurrent backups. With synchronization capabilities enabled, users can save a backup of their projects on a backup drive and use the drive on other computers. When the drive is again connected to the original computer, BounceBack Ultimate automatically syncs the changes, ensuring you're always working with the most up-to-date files. Users can also schedule backups and create backup sets.



CMS Products BounceBack Ultimate

Full download: \$89
Full CD: \$99
Upgrade download: \$69
Upgrade CD: \$79

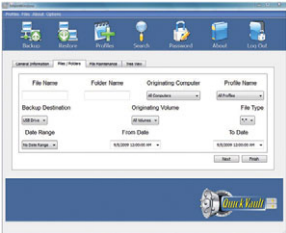
Lets users back up and restore the entire contents of a PC.

(800) 327-5773

www.cmsproducts.com

Mobile Storage

Product	CMS Products ABS-Secure	CMS Products BounceBack Ultimate	CMS Products Vault OTG
			
Description	The ABS-Secure encrypted external hard drive features USB 2.0 connections with capacities ranging from 80 to 500GB. Designed for optimum portability and rugged durability, the ABS-Secure weighs just 7 ounces and features the CMS DataGuard shock-absorbing sleeve, which allows the drive to sustain a shock of 190Gs while operating and 1,000Gs when not operating. ABS-Secure features 256-bit AES encryption and CMS' CE Secure Full Disk Encryption Software as well as CMS' BounceBack Express Version 8.0 for backup and restore capabilities. ABS-Secure is powered by USB and spins at 5,400rpm. • QuickRestore lets you restore individual files or folders • Multidestination backup lets you back up to any local or mapped network drive simultaneously • Continuous data protection • Three-year warranty Best For: Sensitive data storage in rough environments. Price: \$173 (160GB); \$187 (320GB); \$207 (500GB)	BounceBack Ultimate software lets you make a complete copy of your computer, including the operating system, formatting, applications, files, and settings, so you can recover everything on your computer in the event of an operating system or hardware malfunction. With the Instant PC Recovery feature, you can boot your computer from an external USB hard drive and use your applications and access your data as you normally would. To restore your system, you can use the One-Button Recovery feature, which will restore your system to either your previous hard drive or a new one, if necessary. • Lets you restore your PC from an external hard drive • QuickRestore lets you restore individual files and folders • Backup options include continuous backup, scheduling, customized backups, and parallel backups • 256-bit AES encryption Best For: Those who need a simple, immediate restore solution in the event of a disaster. Price: \$69 for a download version; \$79 for a CD version	The Vault OTG encrypted flash drive uses 256-bit AES encryption to protect against prying eyes in the event of loss or theft. To increase protection, the Vault OTG supports passwords of up to 64 characters. Available in capacities of 1GB, 2GB, 4GB, 8GB, or 16GB, the Vault OTG comes preconfigured for immediate use right out of the box with preloaded software and drag-and-drop functionality. To protect against threats from keyloggers, Vault OTG features a screen-displayed keyboard. • Powered by USB • Weighs just 1 ounce • Includes a 19-inch lanyard • When unplugged, it automatically locks, requiring the input of the password before it can be used again • Leaves no trace of activity on your system Best For: Anyone who needs to use public computers but has sensitive data. Price: \$29 (1GB); \$49 (2GB); \$79 (4GB); \$99 (8GB); \$149 (16GB)
Contact	(800) 327-5773 www.cmsproducts.com	(800) 327-5773 www.cmsproducts.com	(800) 327-5773 www.cmsproducts.com

Product	Lexar JumpDrive Secure II Plus	Olixir Mobile DataVault 3DX	QuickVault PC File Vault & Mobile File Vault
			
Description	Lexar JumpDrive Secure II Plus features a 10-bar capacity meter that displays available storage space at a glance, even when disconnected from a computer. JumpDrive Secure II Plus works across platforms, and its display functions are designed to give you complete flexibility and ease of use by working independently of the operating system. You can create multiple password-protected areas called Encrypted Vaults that automatically encrypt your data with on-the-fly 256-bit AES encryption. The File Shredder feature is designed to securely and thoroughly delete files so they can't be recovered, ensuring your data is secure. • Display maintains reading when unplugged from computer • Includes Secure II software for advanced data protection • Drag-and-drop file encryption Best For: Those who need a secure but portable data solution. Price: \$17.99 (2GB) to \$259.99 (64GB)	The high-capacity Mobile DataVault 3DX is an easy-to-use, secure plug-and-play data storage tool. Mobile DataVault drives can be used interchangeably with Olixir's USB 2.0, FireWire, SATA, and eSATA cable interfaces. The drives can also be used as hot-swappable cartridges with Olixir's chassis-based systems, which include 5.25-inch docking bays, desktop towers, and large-capacity 19-inch rack-mount systems. The Mobile DataVault drives support Mac OS 8.6 and higher, Win2000/XP/Vista, and Linux OSes and are compact enough to fit into the palm of your hand. • Ultra-rugged portable hard drives can be used stand-alone with cable interfaces or in Olixir's chassis-based systems • Can survive nonoperational shocks of up to 1,200Gs • Mobile DataVault 3DX drives can easily be repurposed, eliminating waste and maximizing ROI Best For: Maximum storage capacity needs in rough environments. Price: Starts at \$350 (320GB with FireWire, eSATA, or USB 2.0 cable)	PC File Vault is designed for the mobile business user and provides continuous PC backup to an FTP server. Users are able to back up data to a mobile device or their own FTP servers. PC File Vault also includes secure file sharing and complete audit trails (forensics) for data that is shared internally or externally. Mobile File Vault compresses and encrypts any data stored on a device's microSD card. Both programs feature an administrative control panel that allows a system administrator to centrally monitor and track all backup and file sharing activities. Other features include Web-based security administration, thin client file access, digital file sharing, and online reporting. • Enhanced security tools, including USB endpoint security, Web-based security, 256-bit AES encryption, and secure digital file sharing • Backup options include scheduling and drag-and-drop functionality, the ability to back up to a single or multiple PCs, remote FTP backup, incremental file backup, and the ability to back up by file type or folder Best For: Disaster recovery protection for enterprises and mobile professionals.
Contact	(510) 413-1200 www.lexar.com	(800) 719-0595 www.olixir.com	(404) 316-9947 www.pcfilevault.com; www.mobilefilevault.com

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Seth Colaner

Iomega eGo Encrypt Portable Hard Drive, 320GB



The Iomega eGo Encrypt Portable Hard Drive is designed to let you take sensitive data with you anywhere. With a USB interface, hardware-based encryption (128-bit AES), and Iomega's Drop Guard Xtreme feature, the eGo Encrypt Portable Hard Drive protects your data from unauthorized access and accidental drops. The 320GB hard drive is silver and includes the Power Grip band. The eGo Encrypt Portable Hard Drive includes EMC Retrospect software and MozyHome Online backup (2GB free) service.

- Extra security with 128-bit AES hardware encryption
- Drop Guard Xtreme feature protects the drive when dropped up to 7 feet
- Designed to be compact at 5.5 x 3.63 x 1 inches (HxWxD) and 0.6 pound
- Hardware-based encryption boosts performance
- Can automatically back up your drive with EMC Retrospect and MozyHome Ultimate Online software

Best For: Rugged applications that require durability and security.

Price: \$109.99

(858) 314-7000
go.iomega.com

IronKey S200



The IronKey S200 is a physically and cryptographically secure USB flash drive with FIPS 140-2 Level 3 validation. Used by government and enterprise customers, the S200 features hardened physical security, the latest Crypto-chip technology, active anti-malware, and enhanced management capabilities.

- Tamper-resistant and tamper-evident rugged metal case
- Anti-malware capabilities in hardware designed to provide a layer of protection from malware and prevent its spread onto networks
- Includes extended-life flash memory capable of running high-bandwidth applications such as data backups, virtual machines, or bootable mobile desktops
- Enterprise Management Cloud Service for enforcing security policies, providing security and anti-malware updates, and tracking and auditing hundreds of thousands of devices

Best For: Business personnel who need a portable device to store ultra-sensitive information.

Price: Starts at \$79 (1GB)

(650) 492-4055
www.ironkey.com

SanDisk Cruzer Enterprise FIPS Secure USB With McAfee Malware Protection



SanDisk Cruzer Enterprise FIPS Secure USB with McAfee Malware Protection imposes mandatory, hardware-based encryption on all files and password protection to safeguard data stored on company-issued drives. Cruzer Enterprise USB devices are designed to help enterprises mitigate the risk of data loss by ensuring that data on the USB device remains inaccessible unless an encryption key or password is provided. Cruzer Enterprise with McAfee Malware Protection boosts security defenses with automatic, device-resident malware scanning. SanDisk Cruzer Enterprise secure USB drives feature FIPS 140-2 Level 2 certification for encryption.

- Ultra-fast transfer speeds and a simple user interface
- Plug-and-play USB security product
- FIPS 140-2 Level 2-certified
- Hardware-based 256-bit AES encryption
- Mandatory access control for all files (100% private partition) and strong password enforcement with a "lockdown" mode when a predetermined number of incorrect password attempts are made

Best For: Enterprises that require stringent security for their portable data.

Price: Starts at \$65

(408) 801-1000
www.sandisk.com

SanDisk Central Management & Control



SanDisk's CMC (Central Management & Control) software provisions, secures, and manages USB flash drives that connect to a corporate network. The software is designed to provide lifecycle management of drives, including deployment throughout the organization, password recovery and renewal through the network, central backup and restore, central usage tracking, and remote termination of lost drives. CMC protects drives from unauthorized users if the drive is lost or stolen, and the backup feature of CMC makes it simple for the IT department to provision a new drive with the files from the missing drive.

- Centralized deployment and provisioning
- Application and licensing management
- RSA SecurID authentication integration
- Remote termination of any lost secure flash drive
- Auditing for regulatory compliance
- Seamless drive backup

Best For: Tracking the complete life cycle of flash drives.

(408) 801-1000
www.sandisk.com

Tape Backup

Product

Description

Contact

Crossroads Systems ReadVerify Appliance



Crossroads Systems RVA (ReadVerify Appliance) is designed to provide a simple means of monitoring, tracking, and reporting on tape devices and media to help ensure the optimal performance, utilization, and health of a tape library environment, in addition to ensuring tape backup system integrity. With adequate visibility, RVA helps data center administrators discover and mitigate any media or hardware issues before an organization-threatening failure occurs.

- Monitors, tracks, alerts, and reports on performance and utilization in real time
- Offers insight into incomplete or failed backups
- Helps discover and address system issues before failures occur
- Optional ArchiveVerify feature automatically validates readability of media for regulatory compliance
- Monitors small department libraries through enterprise-class libraries of 10,000 slots and more

Best For: Proactively monitoring and validating the integrity of tape media and tracking the performance and utilization of tape devices in a tape library.

Price: Starts at \$5,900 (MSRP)

(512) 349-0300
www.crossroads.com

Crossroads Systems TapeSentry



Designed to alleviate the security issues associated with tape storage, Crossroads Systems TapeSentry encrypts tape media to prevent unauthorized access, theft, and data loss. Adding TapeSentry to a data center won't impact server performance and is designed for quick and easy implementation with the ability to configure any port, host access, or device connectivity. TapeSentry features centralized key management via a Web-based interface with support for flexible, non-drive, or device-dependent encryption policies. Other features include multisite key replication, automatic backup and recovery, and secure sharing of data in the event of a disaster recovery effort.

- Data encryption to prevent loss or theft
- Support for secure key management
- Requires no infrastructure updates or add-ons
- Avoids performance slowdowns during integration with backup applications
- Flexible encryption policies
- Easy setup and configuration

Best For: Rapidly and cost-efficiently encrypting your data stored on tape with simple, secure, and robust key management.

(512) 349-0300
www.crossroads.com

Product

Description

Contact

Overland Storage NEO 2000E & 4000E



Designed for easy installation and compatibility with future technologies, the Overland Storage NEO 2000E and 4000E offer embedded SCSI, Fibre Channel, or SAS connectivity. In addition to support for LTO half-height tape drive and direct-connect interfaces for lowering initial costs and ensuring data protection, the NEO 2000E integrates with Overland's REO Series of disk-based backup and recovery VTLs, Snap Server NAS appliances, and ULTAMUS RAID SAN. It also features a scalable, multimodular design from 30 to 240 cartridges per module. The 4000E features redundant power.

- Storage capacity of 12TB (2000E) or 24TB (4000E) up to 384TB
- Can handle 432GB per hour up to 13.8TB per hour
- Embedded SCSI, Fibre Channel, and SAS connectivity
- Support for LTO half-height tape drive and direct-connect interfaces
- Modular design for scalability
- Easy integration with existing storage devices and appliances

Best For: Midrange data storage requirements.

Price: Starts at \$8,999 for the 2000E and \$39,999 for the 4000E

(888) 343-7627
www.overlandstorage.com

Spectra Logic T50e Tape Library



The Spectra Logic T50e Tape Library offers enterprise capabilities in a compact 4U rackmount library with a range of support options to complement specific requirements. The T50e features LTO technology, library media management functionality, and increased security through the integrated BlueScale Encryption. It is compatible with all major backup packages and operating systems. Connectivity options on the T50e include direct-connect SCSI or Fibre Channel, with iSCSI support planned in the future.

- Setup takes less than half an hour
- Management via Web browser for easy operation
- Built-in AES 256-bit BlueScale Encryption and Key Management
- Monitors its own drives, power supplies, controller, and robotics with the AutoSupport features
- Media Lifecycle Management and Certified Media tools to detect media errors before they happen

Best For: SMBs and remote offices.

Price: Starts at \$9,995

(877) 205-7005
www.spectralogic.com

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Seth Colaner

Gresham Enterprise Storage Clareti Enterprise DistribuTape



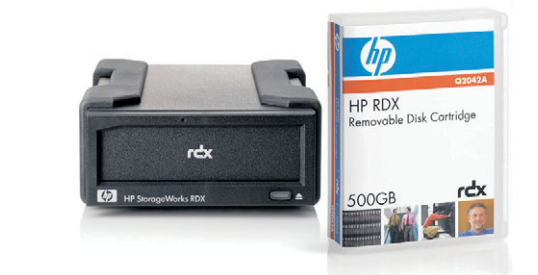
Gresham's Enterprise DistribuTape works with TSM (Tivoli Storage Manager) to help users improve their tape storage processes. Enterprise DistribuTape with TSM offers SCRATCH pool support, automatic network path failover, and drive and media time mount optimization.

- Allows for sharing of consolidated drive pools
- Optimizes drive operations
- Automates media management, reporting, and diagnostics
- Enables mainframe and open systems environments to share libraries

Best For: Environments that use Tivoli Storage Manager and require reliable, efficient tape storage without failures.

(800) 450-0575
www.gresham-storage.com

HP StorageWorks RDX Removable Disk Backup System



The RDX Removable Disk Backup System offers fast disk-based performance with the ability to store 160GB or 320GB of data on a single removable disk cartridge at speeds of up to 108GB per hour. Portable, durable, and rugged removable disk cartridges let you simply and securely store backups off-site for complete data protection and peace of mind.

- Drag-and-drop file access designed to make backup as simple and convenient as a mouse click
- Backup of data at hard drive speeds of up to 108GB per hour
- Random disk access to restore critical files in seconds
- Easy scalability and expandability
- Plug-and-play implementation

Best For: Small and medium-sized enterprises needing a simple, inexpensive, and reliable way to protect critical data and systems.

Price: Starts at \$299

(800) 289-6947
www.hp.com

HP StorageWorks DAT160 USB Tape Drive



Protect your small or medium-sized enterprise, remote office, or workgroup with the HP StorageWorks DAT 160 USB Tape Drive offering the highest capacity and performance with the ability to store up to 160GB of compressed data on a single cartridge at speeds of up to 50GB per hour (assuming 2:1 data compression). The DAT 160 USB Tape Drive is available with a USB 2.0 interface for low-cost universal plug-and-play connectivity in a choice of models, including internal (which also fits in the 1U Rack-Mount kit) and external, making it compatible with virtually any server environment.

- Can store up to 160GB on a single cartridge while backing up to 50GB per hour or one cartridge in about three hours
- Two-generation backward-compatibility with DAT 40 and DAT 72 tape drives
- Low-cost backup solution and ongoing low cost of ownership
- Universal plug-and-play native USB 2.0 interface
- Small half-height form factor and choice of models to fit servers, workstations, and rackmount kits

Best For: Small and medium-sized enterprises requiring cost-effective long-life data retention.

Price: Starts at \$729

(800) 289-6947
www.hp.com

Spectra Logic T680 Tape Library



The Spectra Logic T680 Tape Library features the ability to store a petabyte of data in a single rack space and is expandable up to more than 10,000 slots of storage. Designed to eliminate backup failures caused by dirty or overused tape media, the T680 supports Spectra's BlueScale software to provide a single layer for a number of management tasks.

- Supports up to 680 tape cartridges and TranScales to the T950 for more than 10,000 tape cartridges
- 1.08PB (compressed) maximum capacity
- Supports 12 full-height tape drives (with support for up to 24 drives planned)
- 10.4TB/hour (compressed) throughput with LTO-4 drives and media
- Connectivity via nTier disk cache, VTL, Fibre Channel, SCSI, or iSCSI

Best For: Medium-sized businesses to small enterprises.

Price: Starts at \$67,780

(877) 205-7005
www.spectralogic.com

Sun Microsystems StorageTek SL3000 Modular Library System



The Sun StorageTek SL3000 Modular Library System lets you grow your tape automation environment at your own pace, from 200 to more than 3,000 cartridge slots. Its open design offers true mixed media, logical and physical partitioning capabilities, advanced management, and high-availability features, so you can consolidate mainframe and open systems environments while minimizing power, space, and operating costs.

- Scales from 200 to 3,000 cartridge slots
- RealTime Growth and Capacity on Demand simplify scalability
- Flexible solution for partitioning, sharing, and managing
- Employs technologies designed to simplify capacity planning
- Supports for both mainframe and open systems

Best For: Midrange storage needs.

Price: Starts at \$67,990

(800) 786-0404
www.sun.com

HOW TO

Save Money On Backups

Solutions For Your SME

by William Van Winkle

• • •

IN THE RACE BETWEEN plummeting costs per terabyte and exploding amounts of data in need of storage, the latter perpetually seems miles ahead. In 2007, IDC estimated that the “digital universe” would grow from 161 exabytes in 2006 to 988 exabytes in 2010—a more than 6X increase in four years.

Especially for enterprises, which live and breathe data, there can seem to be little hope of stemming the information flood, much of which must be backed up with increasingly limited resources. However, although there’s no way to turn back the tide of data, there are ways for organizations to trim backup costs and keep from drowning in idle data.

Less Is Better

“Backup needs are growing exponentially, just as budgets are tightening more than ever, prompting the search for backup solutions that will reduce costs and simplify storage operations,” says Mike Ewell, product manager at HP StorageWorks (www.compaq.com/storage).

“A good example of such a technology is data deduplication.”

Deduplication scours a network and searches for exact repeats of any file. These repeats can be removed and replaced with a shortcut that points back to a single “real” version of the file. For example, imagine a 10MB presentation attachment emailed to every employee; in reality, only one copy of that file needs to exist on the LAN.

There is no one-size-fits-all approach to “dedupe” processes, though. Enterprises need to consider what areas within the company should be deduped, which machine types should be deduped, how often the process should be done, and which deduplication algorithms are most appropriate, among other variables.

Deduplication isn’t the only means to having less data to back up. In a March 2009 research paper titled “Backup and Recovery Optimization and Cost Avoidance,” Gartner advises IT managers to exclude rich media file formats, including MP3, JPEG, and AVI, unless there is a

business need for retaining them. If there is, then they should be strictly segregated into storage areas where they’re appropriate.

Gartner further advocates trimming out operating system files in cases where system images can be quickly reloaded from the network. If desktops and laptops can be similarly reloaded, then all that really needs to be backed up is the My Documents folder

Key Points

- Data deduplication methods can help reduce backup sets, which might result in a drop in storage capacity and management costs.
- Decreasing the span of time over which a restoration point can be kept will help reduce overall backup costs.
- Finding more effective backup strategies for client systems that reduce worker downtime is another way to lower overall backup costs throughout an enterprise.

or similar areas where business data will be held. Note that few, if any, .TMP or .DMP files need to be retained—exclude them.

About Time

Compliance regulations such as HIPAA and Sarbox continue to mount in the enterprise world. Each market has its own set of regulatory policies and requirements for how long data must be retained. Disk storage gets most of the headlines these days, but for storage durations measured in decades, many enterprises continue to find value in tape.

“Tape media still remains the best solution for meeting enterprise backup needs,” says HP’s Ewell. “It provides the lowest-cost solution for storing vast amounts of data and can provide protection for up to 30 years. Therefore, customers should consider using a disk-to-disk-to-tape solution to address both short-term and long-term needs. The mindset should be disk and tape, not disk or tape.”

That said, tape isn’t the last word in long-term storage. Russ Conwath, senior research analyst at Info-Tech Research, notes that “while tape backup still plays a role, there are a number of other technologies that may prove more efficient and easier to recover from. Massive array of idle disks and virtual tape libraries are but a couple of alternate technologies that may help.”

Cost of entry isn’t the only determiner of value. Faster recovery times with tape alternatives may outweigh up-front savings from tape solutions. Conwath cautions managers to watch out for adopting too many backup technologies, which often proves more expensive to maintain than a single consolidated backup solution.

Whichever technology makes the most sense for a given group, enterprises will have to decide on an RPO (recovery point objective), the maximum time in the past from which a recovery can be made. The longer the RPO, the higher the overall cost. Thus it makes sense that IT managers create a relationship between data’s business value and its RPO. Most likely, higher-value information should be kept longer, and backup subsets can be created to accommodate this so that not all data is being held for the same duration.

From Desk To Cloud

There are many options for end-user backup across an organization. Enterprises should address the myriad desktops and notebooks spread throughout its midst. In larger groups, virtualized desktops tied into SANs can turn terminal backup into a snap.

Many organizations at this point increasingly turn to the convenience of cloud storage. In some cases, backup speeds can run 800MB per hour, which is fine for daily incremental saves but can make the initial backup of tens of gigabytes a system-slowng ordeal. The advantage of cloud storage is its automation. A small application running on the client removes the element of end users needing to manually back up their data. The weak link with cloud backup, though, is restoring, which can take many times longer than the full backup and usually requires the intercession of IT support. Bare metal backup methods, which back up client hard drives on a bit-for-bit basis so there’s no reinstallation of operating systems or applications, can be the fastest restoration option, but they also tend to require the most hands-on interaction from end users.

Neither of these approaches solves the problem of getting a user with a failed drive immediately up and running in the middle of the night or while on the road. This is why solutions from CMS Products (714/424-5520; www.cmsproducts.com) and others are working to provide products with almost no user interaction that include functions such as the ability to boot directly from an internal, external, or network-attached backup target. When a laptop user can boot straight from an external drive, there’s no immediate need to involve IT.

“The Fortune 500 companies we work with perform analytics on all their backup operations, and storage problems are among the top five things they have to deal with on a daily basis,” says Ken Burke, president of CMS. “What these analytics show is that companies with 20,000 employees running around using this sort of software to back up their systems are realizing millions of dollars saved in the reduction of help desk calls.”

Back inside the server room, though, cloud-based storage services such as e-vaulting offer two big additional benefits: reduction of onsite power consumption and freeing up of floor space. Depending on the organization’s environment and usage models, these two factors alone could offset a large part of the backup service’s fees. **P**

TOP TIPS

- According to Russ Conwath, senior research analyst at Info-Tech, failing to properly maintain equipment, particularly removable media devices, shortens its life span, which costs you money and exposes you to potential downtime. “Look after your backup equipment and it will serve you well.”
- Conwath also recommends checking your offsite media storage usage and charges for cost savings. “Are you being charged by the tape for rotation? If so, could you affect this by changing or increasing tape capacity to rotate less tapes? Are you recalling tapes on an urgent, usually premium charge, basis often?”
- Gartner recommends exploiting recent backup solution enhancements that include the ability to perform incremental forever, virtual full, or synthetic full backups that merge data and consume less overall storage in the backup repository.

- Mike Ewell, product manager at HP StorageWorks (www.compaq.com/storage), suggests removing duplicate data using a technology such as deduplication, which “can increase disk utilization by up to 50 times, significantly reducing storage costs.”

REVINETIX REVOS RELEASE 3.2

NEW PRODUCT

by Nathan Lake



Revinetix RevOS Release 3.2
Offers enterprise-class features, including byte-level replication, data deduplication, and central administration. Ranges from \$1,995 to \$199,500

A Single Backup Appliance

SETTING UP DATA PROTECTION in an enterprise can be a tricky proposition, especially if you’re selecting piecemeal products from different suppliers. Revinetix offers an affordable, fully integrated, single appliance and hardware system that supports an unlimited number of servers and clients. That means no additional license fees or renewal fees. Revinetix recently released version 3.2 of its RevOS, the advanced data protection application that powers the Revinetix Sentio total disk backup appliance.

According to Randall Crocker, Revinetix vice president of marketing, “RevOS Release 3.2 introduces byte-level replication to the existing feature set. Combined with our data deduplication, byte-level replication makes it possible for SMEs to implement more effective disaster recovery strategies.” The

byte-level replication reduces the amount of data needing to be moved across the WAN. “Revinetix’ technologies free up bandwidth by only transmitting changed data, down to byte-level, which is particularly important to the SME markets that struggle with high bandwidth costs.” With the ability to maintain full replicated data between remote facilities, a remote office can recover lost data in the event of data loss at one office.

The disk-based appliance is ideal for those who want to transition from tape backup to a more reliable solution for backup, recovery, and archive. RevOS provides centralized administration through a Web browser. Every major operating system is supported, and RevOS features Active Directory support with agents for Microsoft Exchange and SQL servers.



(866) 956-3782
www.revinetix.com

Data Center Access Policies

Policies & Best Practices Can Vary By Enterprise But Have Many Common Elements

by Kurt Marko
• • •

HUMANS ARE THE WEAKEST LINK in any security scheme. Security professionals can do their best to protect systems with layers of anti-malware, personal and network firewalls, biometric login authentication, and even data encryption, but give a good hacker (or computer forensics expert) enough time with physical access to the hardware, and there’s a good chance they’ll break in. Thus, robust physical

Key Points

- More stringent laws, regulatory requirements, and industry standards necessitate formal strategies and policies for data center physical security and access controls.
- Policies must identify who has access and where they are allowed, as well as restrictions on movements and activities within the facility. Access policies and physical security practices need to be verifiable (by logs and surveillance) and auditable.
- For greater security and accountability, computer rooms should be partitioned by either equipment function (server racks, network control, facilities) or system sensitivity or criticality (high security/high availability vs. minimum security/non-critical).

access controls and policies are critical elements of any comprehensive IT security strategy.

According to a report by the SANS Institute, “IT security and physical security are no longer security silos in the IT environment; they are and must be considered one and the same or, as it should be called, overall security.”

Access levels and controls, with identification, monitoring, and logging, form the foundation of an access policy.

It is the innermost layer—physical entry to computer rooms—over which IT managers typically have responsibility, and the means to effective control over human access focuses on a set of policies, procedures, and enforcement mechanisms.

Policy Basics

Given their importance and ramifications on employees, access policies must come from the top leadership. According to Kevin Beaver, independent consultant at Principle Logic, “The essence of a good

policy is to make it clear ‘this is how we do things here.’”

After setting expectations and behavioral ground rules, actual data center access policies have several common elements. The most essential are definitions of various access levels and procedures for authenticating individuals in each group and their associated privileges and responsibilities when in the data center.

A policy template developed by Info-Tech Research Lead Analyst Darin Stahl calls for a simple distinction between employees, contractors, and visitors. A more granular refinement, which Stahl prefers and sees becoming increasingly common, is a categorization between employees with unfettered, unescorted access to the entire data center; those who have uncontrolled access to certain portions (such as a server room or cage of racks within the room vs. the network control center); and those requiring escorts.

Although older data centers typically just consisted of a large, unpartitioned raised-floor area, Stahl says newer enterprise facilities have taken a page from ISP designs by dividing the space into various zones—for example, a cage for high-availability servers, another area for Tier 2 or 3 systems, a dedicated network control room, and even separate areas for facilities infrastructure such as PDUs and chillers. Such partitioned data centers provide control points for denying access to personnel with no responsibility for equipment that’s in them.

Identification Procedures

The next step in a physical security policy is to set up controls and identification procedures for authenticating data center users and granting them physical access. Although biometric scanners look flashy

in the movies and certainly provide an added measure of security, Stahl says a magnetic stripe badge reader is still the most common entry technology, as it’s simple, cheap, and effective and allows automated logging, which is a necessary audit trail.

One problem with mag readers, according to Stahl, is their susceptibility to tailgating, or allowing unauthorized personnel to trail a colleague through an entryway. That’s why Stahl advises supplementing doors and locks with recorded video surveillance.

Peter Sacco, president of PTS Data Center Solutions (www.ptsdcs.com), also likes to add a form of two-factor authentication to entry points by coupling a card reader (“something you have”) with a PIN pad (“something you know”), which reduces the risks of lost cards. Like Stahl, Sacco recommends using time-stamped video surveillance in conjunction with electronic access logs, but he also suggests adding a sign-in sheet to provide a paper trail.

Access levels and controls, with identification, monitoring, and logging, form the foundation of an access policy. But two other major policy elements are standards of conduct and behavior inside the data center (such as prohibitions on food and beverages or tampering with unauthorized equipment) and limitations and controls on the admission of personal electronics such as USB thumb drives, laptops, smartphones, or cameras.

Policies should also incorporate processes for granting access or elevating restriction levels, an exception process for unusual situations, sanctions for policy violations, and standards for reviewing and auditing policy compliance. Stahl cautions that penalties for noncompliance will vary from company to company because they must reflect each enterprise’s specific risk tolerance, corporate culture, local employment laws, and union contracts.

Relevant Regulations & Standards

An overriding issue for IT managers designing access controls, Stahl says, is “understanding just what regulations or compliance requirements you face.” Yet these have become so prevalent that IT managers need not start with a blank slate when designing a set of policies. For example, section 9 of ISO/IEC 27002:2005 includes guidelines on security perimeters, entry controls, and work rules. “The ISO/IEC 27002:2005 standard is the one that I recommend,” says Beaver.

The PCI DSS (Payment Card Industry Data Security Standard) also includes a lengthy section (also section 9) on physical security, which, Stahl says, is a “very practical, tactical, and actionable” starting point that meets at least 80% of most enterprise needs. One nice feature of the PCI DSS is that, in addition to outlining specific requirements, it adds corresponding testing and auditing procedures. Stahl says that any enterprise could use PCI as a baseline, augmenting it as needed to meet business-specific requirements.

The ability to test and validate access policy compliance is important, and Stahl recommends integrating physical security audits with existing IT audit processes. “Auditors can be your friend,” he says, noting that independent third parties are the best way to establish policy compliance.

Suggested Elements Of A Data Center Access Policy

IT security is as much about physical security as it is about network and application security. Controlling physical access to the enterprise data center is critical in protecting the data and information contained inside.

Info-Tech has developed a set of requirements and procedures based on industry-standard best practices that can be customized to better suit specific company needs.

Levels Of Access

Authorized access. The data center is physically secured by a card-reader door lock and monitored 24/7 by building security. Additionally, recorded video surveillance is conducted through the security cameras placed within the server room. Card-reader access is available to the server room on a 24/7 basis for authorized employees. A listing of currently authorized staff is kept in a Data Center Access List.

Vendor access. A listing of currently approved vendors is kept in the Approved Vendor Access List. All included vendors have been authorized for access based on job-related need. The need for continued authorization will be reviewed no less than quarterly. While onsite, vendors must wear their identification badges at all times. Vendors with approved access to the data center are required to identify themselves and sign in/out of the data center using the Site Access Log.

Visitor/guest access. In general, casual visits and/or tours of the data center are not allowed. However, approval of a tour or casual visit may be granted. Requests for a visit or tour of the data center must be preapproved by the VP Finance. ID and sign-in requirements as for vendors; also, visitors must be escorted at all times.

Conduct In The Data Center

In order to maintain a secure, safe environment, it is mandatory for all persons working within (and visiting) the data center to adhere to a set of rules covering use of camera, mobile phones, other electronic equipment, food and drink, and general behavior.

Monitoring & Audit

Data center access is controlled and monitored by various subsystems (reader door lock system, video surveillance cameras, etc.) that produce access records. All data center access records are subject to retention requirements and auditing.

SOURCE: “INFO-TECH RESEARCH DOCUMENT TEMPLATE”, JULY 2009.

Although PCI, SAS, ISO, and various templates such as Info-Tech’s can provide general guidelines, Beaver feels that, ultimately, access policy must reflect situations unique to each business. “The best advice I can give is to find out where you’re weak first,” he says. “Putting policies and procedures in place without first understanding what you’re up against is simply going through the motions and is not sustainable long term.”

Microsoft Security Intelligence Report Shows This Year's Threats & Trends

A recent security report released by Microsoft states that of all the potential threats on the Internet, worms and phishing attacks are the most prevalent.

Published twice a year, the seventh volume of Microsoft's Security Intelligence Report examines malicious and potentially unwanted software and security breaches. Data was collected from more than 450 million Windows-based computers worldwide, and the results cover trends from January through June 2009.

Trojans remained the most prevalent threat to computers, with Win32/FakeXPA being the most common family. This category includes rogue security software—malicious programs that pose as an antivirus or antispysware application and trick a user into downloading them. In Microsoft's previous Security Intelligence Report, which covered July to December 2008, these were at the forefront of security threats, and in volume seven, Microsoft states that they are still a major threat.

Increased Threats

The report shows that worm infections are becoming more common, as well. The number of infections rose from fifth place in the second half of 2008 to second place in the first half of 2009, with enterprise environments being more likely than home environments to encounter them. The biggest threat to enterprises in the first half of 2009 was the Conficker worm.

Microsoft also reports that phishing attacks are on the rise, mainly due to an increase in attacks targeting social networking sites in the first half of 2009. Overall, the types of sites targeted by phishing attacks varied more than in the past and included gaming sites, portals, and large corporations' Web sites. More specifically, the number of phishing impressions, or how many times users clicked through to reach a phishing site, nearly quadrupled since the second half of 2008, due partially to a campaign that targeted social networking sites.

Other trends discussed in the report include malicious and potentially unwanted software, operating system trends, email threats, browser-based exploits, and SQL injection attacks. A full version of the report can be found on Microsoft's Web site.

by Kris Glaser Brambila



Mobile Device Protection

Encryptx's DeviceDefender Encrypts & Defends The Valuable Data On Removable Devices

by Robyn Weisman

ENCRYPTION IS REACHING a tipping point in the IT world. Although stories of stolen laptops holding anywhere between a few hundred and a few hundred thousand Social Security numbers have hit the media, solutions to stop such incidents have not gotten the same coverage, perhaps because relatively few solutions exist that can prevent such nightmares from happening. Without such solutions, the only way an SME can avoid a similar catastrophe is to seal off USB ports on employee PCs and create strict policies that are often difficult to enforce.

Increasingly, however, encryption solutions are arriving in time to help SMEs deal with this pernicious and pervasive problem. Broomfield, Colo.-based security solutions provider Encryptx (www.encryptx.com) offers a particularly appealing solution called DeviceDefender that IT departments can install on PCs, servers, or both.

DeviceDefender Features

- Automatic protection of all types of removable media
- Access control from the user PC
- Access to secured files on network drives and backup devices
- Automatic installation of a portable encrypt/decrypt client if a particular device doesn't support hardware encryption
- Central management tracking through the Security Server Console, with a complete audit trail of access to secured content and management of user/device/media identities

Encryptx founder David Duncan spent most of the 1980s and 1990s working on trusted networks for such agencies as the U.S. Department of Defense, U.S. Army, U.S. Air Force, and FEMA. In 1999, Duncan founded Encryptx, leveraging his knowledge of how to best protect critical data that is transported on removable devices in a complete and cohesive fashion, explains Phil Velella, vice president of worldwide sales at Encryptx. And DeviceDefender provides data center managers with unparalleled encryption capabilities for portable devices of all kinds, along with easy-to-use yet powerful administrative tools.

A Comprehensive Removable Device Security Solution

Velella describes DeviceDefender as a comprehensive removable device security solution that has three key features: removable device security, removable device control, and removable device management.

DeviceDefender can automatically detect and transparently encrypt any type of removable device, such as memory cards, USB thumb drives, smartphones, and iPods, among other items, says Velella.

In addition, Velella says that DeviceDefender allows users to apply certain actions and set specific policies and that

purpose of it is to detect any removable devices used on the PC or server," he says.

Rich forensic capabilities are built into DeviceDefender that make it easy for IT to define how long a user can access a given device. "If they use it for too long, they must reauthenticate, and if a user is deemed untrusted, whether or not they



these actions and policies may be automated. "Those policies could be things like, 'Allow this device through and automatically encrypt it,' 'Block this device and prevent it from connecting to the network,' or 'Set device as read only,' where the device can connect and access the files, but cannot copy files from the network onto that device," Velella says.

DeviceDefender's removable device management capabilities complete the solution. According to Velella, DeviceDefender gives data center managers the ability to audit, track, provision, and remotely control the devices that make up the network.

Comes In Two Flavors

DeviceDefender is a software-based solution that comes in both a PC client and a server client. For complete coverage, data center managers would be best served by putting the PC client on every PC and the server client on one or two servers.

By installing DeviceDefender on all client PCs, data center managers can ensure that whenever a removable device is connected to a company's PC, that device will be obliged to follow whatever policies and actions that you have set up. The PC client version of DeviceDefender will automatically encrypt up to 20 removable devices and 250 CDs or DVDs annually, while allowing users to set up and manage an unlimited number of actions or policies.

"The PC version keeps track of devices it encrypts, and at end of one year, opens up that slot to allow users to automatically encrypt more," says Velella.

The server version of DeviceDefender allows users to encrypt as many as 250 removable USB devices and 1,500 CDs and DVDs per license per year. Both versions offer the same government-grade, 256-bit AES encryption.

Admin-Friendly Automation

According to Velella, DeviceDefender is very easy to use and manage from both the user and IT level. "DeviceDefender is dummy-proof [and] is designed to be transparent and automatic [rather than] administrative level," Velella says.

Velella explains that a kernel-level filter driver is loaded onto the PC or server when DeviceDefender is installed. "The

have the correct password, their access can still be revoked so that they have zero access to files," says Velella.

Not Tied To Any Device

Unlike many of its competitors, DeviceDefender is not tied to a specific device. "The focus of DeviceDefender is to cover the whole spectrum," says Velella. "We don't sell you a flash drive or [other] removable device specific to our solution. Not only can you encrypt a wide range of devices, DeviceDefender also supports a wide range of vendors so that you can create actions or policies by vendor, as well," he says.

Velella says that DeviceDefender is designed to give organizations investment protection as well as a comprehensive and far-reaching security solution, taking into account the vast complexities and differences in today's networks.

"We have encountered a number of customers [for whom we] provide encryption that continue to use all of their devices, as opposed to looking at some vendors where they would have to replace all those devices and hand out only specific ones" that match up with competing solutions, Velella says. "DeviceDefender does not interrupt operations per se. It is cost-effective, as well as being full-featured and powerful." ■

ENCRYPTX DEVICEDEFENDER

(888) 431-4550
www.encryptx.com

Description: A software-based solution that allows users to automatically encrypt a variety of removable media and devices and enables admins to set up granular actions and policies for the management and encryption of media and devices that access the network.

Interesting Fact: Encryptx's founder David Duncan originally was a cryptologist at the NSA (National Security Administration), working on highly classified government computer systems, says Phil Velella, vice president of worldwide sales at Encryptx. "Encryptx was founded based on the work David did designing and validating these systems," says Velella.

SECURITY

SIX QUICK TIPS

Dealing With Lost Or Stolen Notebooks

Data Protection Is Job One When Notebooks Are Missing In Action

by Bruce Gain
• • •

THE AVERAGE BUSINESS notebook packs more computing power and storage capacity than the typical high-end desktop did just a few years ago, making it easier for users to carry most of their work with them wherever they go. The utility that notebooks offer is demonstrated by their wide-scale adoption—in the United States, analyst firm IDC expects the portable PC market to total 39.5 million units in 2009, compared to desktop PC sales of 26.6 million units.

For the admin, the downside of notebooks’ popularity is that there is also an explosion of vulnerable data beyond the firewall that all-too-often gets separated from the laptops’ owners—data that may not be adequately protected. The potential damage is obvious, with high-profile cases making headlines when executives lose their laptops, resulting in security nightmares. For the small to medium-sized enterprise, an executive on the road can

When a laptop goes missing, a main concern is to be able to resume work as soon as possible.

easily carry a hornet’s nest of confidential files, photos, records, presentations, and access privileges to the enterprise’s server. Besides the regulatory and compliance issues involved, a data thief could do a lot of damage with any of this data.

However, admins can proactively take action to offset the costs and security risks associated with lost and stolen notebooks. Here are steps you can take now to lessen the pain, whether a user’s laptop is lost or winds up in the hands of thieves.

Lock ‘Em Down

Suppose the CFO’s laptop was stolen as she was on her way to give a presentation to a group of venture capital investors interested in buying a stake in the company. On the hard drive are details about the

company’s finances, future plans, and even payroll information with private employee data. A thief could wreak havoc on the company with such information; however, if the data was locked down tightly with encryption, a thief would be unable to use it to his advantage. Instead of a major security risk, a locked-down laptop is merely worth what its spare parts can bring on the black market.

“If a laptop is lost or stolen, you can be pretty sure that no data on it can be recovered [if it is adequately encrypted],” says Jamie Riden, a member of UK Honeynet Project (www.honeynet.org) and an independent security researcher. “Of course, it never hurts to get the user to change their passwords, but it’s probably not essential with strong encryption of the disk contents.”

Riden says he also recommends strong encryption for USB media and any other portable devices.

Know The Law

Notebooks are used outside of the enterprise, which means that they could be lost or stolen in states or countries with very different laws and procedures to follow when reporting a lost system to the authorities. The protocols involved with reporting a lost or stolen enterprise notebook in Kansas, for example, may be different from those in New York City.

At the same time, compliance procedures associated with lost laptops vary according to the rule of laws and regulations in a particular state or country in which an enterprise is based.

“Data breach penalties and disclosure requirements vary by country and even by U.S. state,” says George Ferguson, a product marketing manager at HP. “[However], uniform U.S.-level legislation governing data breaches is now under consideration by the U.S. Congress.”

In Europe, for example, compliance protocols are more relaxed in some ways but are stricter in other areas compared to the United States. “In general, the United States is ahead of the EU in data breach requirements, while the EU is ahead of the United States in data privacy requirements,” Ferguson says. “This being said, Europe is beginning to catch up in the data breach area.”

The Power Of Backups

When a laptop goes missing, a main concern for the user is to be able to

Best Tip:

Recovery Is Not Enough

Protecting data if a laptop gets into the wrong hands is crucial, even if your enterprise is able to successfully recover the system, says John Girard, an analyst for Gartner. It is critical to realize that the data, as opposed to the laptop itself, poses the most significant security risks. “Bear in mind that the requirements for data protection are not satisfied simply by recovery of the laptop,” Girard says. “The sensitive information must be protected from unauthorized access.”

Most Practical Tip:

Know What Data Is Out There

Information such as customer data that is on a stolen laptop will require specific compliance procedures depending on the enterprise’s location. Conversely, a notebook that is lost with data that poses no security risks is of less importance. But to determine what data has been lost requires knowing what is stored on the notebook in the first place. “Assess what the thief has and protect against them from using it against you,” says Rob Enderle, principal analyst for the Enderle Group.

resume work as soon as possible. This is why regular backups are important, because they can make it possible to quickly recover the same data and applications on another machine.

“Laptops should be backed up regularly. If a device is lost or stolen, a working image can be quickly restored,” says John Girard, an analyst for Gartner. “This is important not only for productivity, but also to verify what was on the device when it disappeared.”

Encourage Employee Awareness

There are organized rings of criminals whose mission is to steal laptops, as well as other valuable electronic devices, at places where business travelers frequent such as at airports and train stations. It is thus important for users to be aware and vigilant when traveling.

“Folks really need to think about how to keep a laptop from being stolen in the first place,” says Rob Enderle, principal analyst for the Enderle Group. “Don’t leave them in plain sight in cars or hotel rooms, don’t leave them on chairs or tables when you go to get a drink or go to the bathroom unless they are being watched by someone, and put them through the security station at an airport first, not last, so you are less likely to run off before it comes down the belt. In addition, a sticker that says the laptop is protected in some fashion could push a thief into taking another product.”

Microsoft Co-founder Diagnosed With Cancer

Paul Allen, co-founder of Microsoft, is currently undergoing treatment for non-Hodgkin’s Lymphoma. The billionaire was diagnosed with the disease in early November. Allen is listed as one of the 20 richest Americans in *Forbes* magazine and has accomplished much during his career. He co-founded Microsoft with friend Bill Gates in 1975 and left in 1983 when his health worsened during his first fight with cancer. Allen survived the rarer Hodgkin’s Lymphoma more than 25 years ago. According to Allen’s sister, Jody Allen, who is also the CEO of his Vulcan investment company, Paul Allen is optimistic and remains upbeat about the treatment.

Processor Shipments Take Major Upswing

In a somewhat surprising turn, IDC reported that global third-quarter semiconductor shipments rose 23% from the previous quarter, marking all-time-record levels for one quarter. According to an IDC release, the increase is “approximately double the normal growth in unit shipments for the same period.” Leading the growth was a 35.7% increase in processor shipments for mobile PCs, including mininotebooks and netbooks using Intel Atom-based chips. Shipments of desktop PC chips, meanwhile, climbed 11.4% for the quarter, while shipments of x86 server chips were up 12.2%. IDC’s Shane Rau says the rise in shipments was offset by market revenue that grew by just 14.1% quarter-over-quarter, due partially to the low average selling price of systems using Atom processors. Among manufacturers, Intel claimed an 81.1% share of shipments (+2.2%) followed by AMD at 18.7% (-2%) and VIA Technologies (+0.2%). “Most meaningful about 3Q09 is that, since PC processor shipments overall just slightly exceeded shipments in 3Q08—which was itself a record quarter at the time—we know that the processor market is recovering,” Rau says.

Google Acquires Internet Telephony Company

Google acquired Internet telephony company Gizmo5, which provides Internet-based calling software for mobile phones and computers. Google did not announce any specific intentions for Gizmo5 but did say that the company’s engineers would join the Google Voice team and “continue improving the Google Voice and Gizmo5 experience.” Although current Gizmo5 users will continue to have access to service, Google has stopped taking new Gizmo5 signups, and current users won’t be able to sign up for call-in numbers. Gizmo5 uses the open SIP standard to provide its service. Skype, which uses proprietary technology, had reportedly been considering purchasing Gizmo5.

Terremark Acquires DS3

Terremark Worldwide, a provider of managed IT infrastructure services, recently bought DS3 DataVaulting, a storage-as-a-service provider, for \$11.2 million. The acquisition, done in part to improve its storage backup service, makes DS3 the Backup division of Terremark and brings a partnership with Asigra to Terremark’s table, giving Terremark multiple options for how it offers its services. DS3 also brings VMware and disaster recovery expertise to Terremark, in addition to services that will help Terremark develop cloud computing solutions.



BONUS TIPS

- **Track and wipe stolen laptops.** Software products exist that not only allow you to track a stolen laptop, but to remotely wipe out the data, as well, says Rob Enderle, principal analyst for the Enderle Group. Software that does this is “generally the best
- regarded of the offerings” and is “well worth the money,” Enderle says.

■ **Take control for the users.** Users are not supposed to be security experts, so it is up to the admin to take measures to mitigate
- damage when and if laptops are lost or stolen. “Users cannot be depended upon to police the sensitive data on their own systems,” says John Girard, an analyst for Gartner. “Protection needs to be automatic.”

SIX QUICK TIPS

Choosing An Outsourced Service Provider

Sift Through The Clutter To Find A Provider That’s Right For You

by Drew Robb

• • •

TYPE “OUTSOURCED IT” into Yahoo!, and you get almost 1 million hits. Make it “Outsourced IT Service Provider,” and you narrow it down to more than 800. That’s still an awful lot of links to sift through, and you may not find the services you need. In addition, there are plenty of fly-by-night outfits that will take your money and then not deliver the goods. So what should you look for in a provider?

Think Business First

Many SMEs focus on the technology or service they need during the selection process. Although this is certainly important, the business side of the equation deserves even more priority, according to Mike Karp, an analyst at Infrastructure Analytics.

“It’s important to remember that choosing a service provider must always be a business and not a technology decision,” says Karp.

Does the provider offer the services you need at a price that is competitive with what it would cost to perform the same functions in-house? Does offloading a particular IT function free up existing resources that could be more effectively applied elsewhere? Does the provider offer an essential service—e-discovery, perhaps, or some other compliance-related service—that would be too expensive to acquire internally? And will the candidate deliver in a manner that is consistent with the company’s own internal rules of governance? Answering these questions will help narrow the field.

Be Specific

A common practice is to develop generic vendor selection guidelines that don’t really get to the heart of the matter. Further, such documents tend to favor the larger “we do it all” giants. Why? Such firms are skilled at marketing their services and gaining approval. However, they

sometimes take on work outside of their comfort zones and then develop the talent they need to pull it off. The downside is that you are paying for their learning curve in new areas. The same issue can also crop up with smaller firms trying to play outside of their league.

“Companies should select providers based on their ability to deliver in a specifically defined project and screen providers based on those requirements,” says Michael Friedland, executive vice president of Luxoft (www.luxoft.com).

He also makes the point that real-world experience is gold when it comes to outsourcing, so don’t rely on promises that a company can deliver or responses to generalized guidelines. Look into actual project experience and ask for lists of contacts at clients that received services similar to those being requested. Even if the company hasn’t done the exact work you are demanding, check out their results in related fields and the skill sets on tap to generate success.

Put Rates In The Blender

Friedland cautions SMEs that rate cards can be deceiving. Any price list is merely a declaration, which lists a number of people involved in the project, their seniority, their hourly rates, an estimated number of hours to be billed, and a projected overall budget. However, this is quite different from what could be termed effective or blended rates, which it is best to calculate retroactively.

“Effective rates are calculated at the end of the project, when you can evaluate the scope and what was achieved against the number of people and the rates charged,” says Friedland. “If a provider has experience [and] quality people and knows the job, then blended rates will be lower.”

The achievement of a good blended rate is built on multiple elements, such as hierarchy of delivery team structure, vendor effectiveness, and project overhead costs. So how can you ascertain blended

Best Return On Investment:

Cheap Can Be Expensive

According to Doron Eskinazi, president of Professional Software Development Corporation (www.psdcorp.net), it’s easy to be blinded by cheap rates. Low-cost vendors are everywhere these days, so look behind the numbers by checking the performance of vendors you are considering. Pay close attention to delivery time and quality of product, he adds.

To achieve maximum ROI, “Prepare very detailed requirements and a project plan,” says Eskinazi. “Then keep the project moving along by maintaining close communication with the vendor.” A good vehicle for this is to conduct regular demonstrations of work progress. Alternatively, schedule reviews where results can be monitored and issues ironed out.

Simplest Tip:

Determine If Outsourcing Is Really Necessary

Andrew Chalmers, CEO of Ballard Chalmers (www.ballardchalmers.com), challenges companies to really look at whether the service can be done better by an outsourced service provider than in-house, or is it just an easy option?

“Be the devil’s advocate, as the fact is that the outsource service will very quickly become ‘part of the family’ and settle into a routine with you,” says Chalmers. “With a longer-term contract in place, you can potentially lose that customer/supplier relationship that maintains service levels.”

The provider should be able to show true value in terms of cost savings and improved service through taking away internal hassle. Further, it has to demonstrate a commitment to maintaining that level of savings and service. Otherwise, it can all become routine and not be thoroughly challenged again. So a review mechanism needs to be in place to regularly verify whether you really should be outsourcing.

rates for a project that hasn’t taken place yet? The trick is to check with recent clients as to how satisfied they were with the project and how costs worked out compared to the initial budget and projected rates.

The Great Communicator

One heavily undervalued factor is communication, which can make or break almost any outsourcing engagement. The outsourcer has to maintain good communication with the customer, must be able to listen, and must also quickly understand needs.

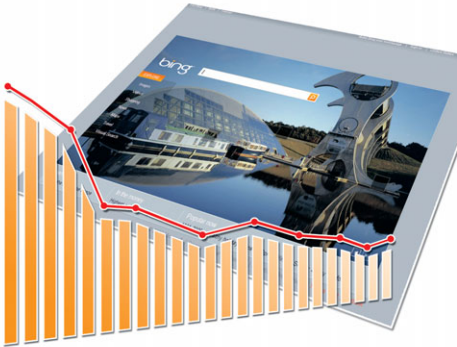
Further, don’t make the mistake of evaluating the communication skills based on the initial contact. The first person you work with might be wonderful to deal with, but once the project is off and running, you might never see or hear from that person again. Therefore, insist that those who will manage and carry out the project work are part of the initial discussions. 

Web App Security Falls Flat

Users are experiencing more flaws in the Web applications they use, according to the latest report from Web security firm Cenzic. About 80% of the 3,000 software security bugs reported this year all have one thing in common: They exist in Web-based sources, such as Web servers, Web applications, Web plug-ins, and Web browsers. Last year, about 10% fewer flaws were reported during the same period. The firm blames security flaws in the Web application layer for Web-born data theft, malware infections, and data breaches. Cenzic also found that about 90% of the vulnerabilities existed in sloppily coded commercial software, which Cenzic interprets is the result of a greater emphasis being placed on getting software out as quickly as possible as opposed to making sure it is secure first.

Pioneer Files Patent Suit Against Garmin

Pioneer in Japan has filed a lawsuit against rival company Garmin. Pioneer claims the navigation system maker has violated three of its patents. The complaint follows failed negotiations between the two companies to license the patents. Pioneer is asking the U.S. International Trade Commission to ban Garmin from shipping several of its products to the United States. The patents in question cover multiple aspects of a car navigation system, including the option to have the system automatically delete trip information after nearing a destination. Pioneer says legal action is necessary in order to protect its intellectual property. Garmin disputes the claims, stating that there has been no infringement and the patents are not valid. Pioneer also filed a complaint against Garmin in the District Court of Dusseldorf in Germany claiming the company violated two Pioneer patents.



Bing Shows Largest Gain In Market Share

The latest numbers from market research firm Hitwise are out, showing that Microsoft’s Bing experienced the largest percentage increase in market share of the major search engines, moving from 8.96% to 9.57% of U.S. searches for the four weeks ending Oct. 31. This amounted to a 7% uptick. By contrast, rival Google’s share dropped from 71.08% to 70.6%, and Yahoo!’s share declined 1% to 16.14%. Ask.com improved slightly, moving up to 2.62% from 2.56%.

Mobile Phone Frustrations

According to a Qualcomm’s Xiam Technologies subsidiary, smartphone users have a number of gripes. The results of Xiam’s study of 2,600 mobile content users show that a majority of them find their phones’ search capabilities lacking, resulting in an inability to find what they want. Other complaints include slow page loads, the need to click through too many pages, and having to scroll through too much irrelevant content to find the content they want. But it’s not all bad news; the study also found that most users are willing to spend more time accessing and purchasing content if it’s easier to get to. The study also determined that mobile phone users in the United States put a lot of stock in email and QWERTY keyboard features, compared to UK mobile phone users, who favor the looks of phones and the entertainment capabilities.

BONUS TIPS

■ **Check schedule compatibility.** In today’s global marketplace, service providers can be anywhere in the world. But can the vendor work with your organization at a predetermined schedule and maintain that for the duration of the project? Verify that before you start, or else begin on a small scale to test the waters, says Doron Eskinazi, president of Professional Software Development Corporation (www

.psdc.net). Otherwise, the company schedule can be heavily disrupted because of scheduling conflicts. This can even go so far as to interrupt normal tasks, thereby inhibiting day-to-day productivity.

■ **Demand responsiveness.** Fast response also plays a part in the selection process, says Sabine Waterkamp, president of outsourced IT support provider ACSLA

(www.acsla.com). Is the outsourcer easily reachable and can they arrive onsite or otherwise respond in an acceptable timeframe? If not, all the technical skills in the world will be of little avail. Although the quality of the work might approach perfection, if you can’t reach them in a timely manner and can’t ever maintain a timeline, find someone else.

FEATURED COMPANY

Automation In The Cloud

SoftLayer Aims To Make IT's Job Easier
With Its Cloud Computing Offerings

by William Van Winkle

WHEN NATHAN DAY, CTO of SoftLayer, turned 41, it was two days after Halloween and right in the midst of post-holiday clearance sales. He arrived at work to find his office so covered in spooky cobwebs that he literally had to cut a path to his desk with a pair of scissors.

It's a visual that seems to sum up Day's job: His mission is to cut away the mess

"We're focused on taking people out of every data center operation that they could possibly do," says George Karidis, SoftLayer's chief strategy officer. "We're constantly trying to make it all as automated as possible. That leads to very streamlined and efficient delivery of IT services to data center environments."

SoftLayer runs more than 21,000 servers across three centers located in Seattle, Dallas, and Washington, D.C.

has evolved its own particular set of security rules and firewall settings, those can be applied to SoftLayer's infrastructure, or SoftLayer has plenty of security templates that can be customized. Every server comes equipped with KVM over IP capability so IT managers can manipulate the systems as if they were in a rack only a few feet away. The idea is to provide a virtual enterprise environment on a much lower cost basis than by having the resources on-premise.

To Host Or Not

SoftLayer does not offer managed services in the conventional sense, only managed computing resources, so although it doesn't offer disaster recovery services per se, some organizations do offload DR tasks to SoftLayer's infrastructure, especially those with existing colocation capacity. This allows an organization to maintain situations such as active-active configuration with appropriate load balancing but without the troubles of maintaining those resources locally. SoftLayer can also use its iSCSI SAN resources to let clients perform system snapshots and replication.

As good as it all sounds, though, SoftLayer is not a solution for every occasion. Often, enterprises won't let production applications travel offsite. Consider a bank: Financial institutions might outsource the Web front end to a group such as SoftLayer, but all client data would need to stay in-house. Organizations tied to government often have similar restrictions, and industry regulations may also mandate outsourcing limits.

However, even if an application can't have its production apps hosted, those

However, SoftLayer feels that its scale and extreme emphasis on automation help the company to realize a significant competitive advantage, much of which gets passed on to clients. Karidis states that with either SoftLayer's cloud environment or its dedicated servers, customers can expect to save anywhere from 30 to 40% against direct competitors. Compared to typical colocation—having to buy the infrastructure, maintain it, have spares available, staffing costs, high-performance networking, and so forth—savings can approach and even exceed 50%.

To generate such savings, sometimes companies have to cut a lot of corners, including environmentalism. Fortunately, SoftLayer has made going green as much of a priority as "saving green" for clients. The company acknowledges that there's only so much that can be done to cut electricity consumption—these are data centers, after all. But SoftLayer worked

SOFTLAYER

(866) 398-7638
www.softlayer.com

- SoftLayer is known for its on-demand cloud computing and hosting services designed to help companies of all sizes increase productivity cost-effectively.
- Its CloudLayer line of services helps SMEs do more with less capital investment.
- "We're constantly trying to make [data center operations] as automated as possible. That leads to very streamlined and efficient delivery of IT services to data center environments," says George Karidis, SoftLayer's chief strategy officer.



that normally confounds enterprises that need to scale their computing. SoftLayer's mission is to automate anything and everything possible in IT services—from accounting and billing to provisioning, ongoing support, and management of the infrastructure.

Point & Click Scaling

Experienced IT managers know the traditionally weeks-long time necessary to configure, order, receive, provision, and burn in a new server. Time and workflow issues aside, the simple costs tied to this process are a considerable IT expense. With SoftLayer, acquiring a new server boils down to configuring it in a Web-based UI, waiting about two hours for provisioning within SoftLayer's data centers, and then the system (whether dedicated and physical or shared and virtual) is ready to start receiving applications and running.

Bonded by load balancing and 290Gbps of connectivity, these resources are suitable for Fortune 50 operations, but Karidis emphasizes that the same infrastructure and resources apply to small companies simply trying to pull their servers out of a closet and into a space with enterprise-caliber security, power, and redundancy. Moreover, pushing server costs out into remote facilities also turns the IT expense from a capital expenditure into an operational one. It also alleviates the need to worry about periodic hardware refreshes and the legion of headaches that accompany server migration.

"We make it easy for companies to get their computing online, without managing power and all the boring stuff that they shouldn't be taking care of anyway," says Karidis. "Let someone like us who's good at it and can optimize that physical layer down step in so there's no need to reinvent the wheel."

SoftLayer also handles the licensing of all major operating systems and many third-party applications. Software is actually the crux of the company's value proposition. Day points out that many rival infrastructure providers tout API availability in the single digits; SoftLayer offers more than 1,400 API calls.

"This was built with the idea that somebody out there's going to be running . . . some other data center management tool, and they'll want to integrate to that platform," says Day. "That's how the API was driven—not as an afterthought but as the foundation. Our portal is actually a subset of the API, not the other way around like a lot of our competition does. They hold things back in the API to force people into a working environment. We'd rather tie you into the service at a foundation level and let the interface be your own."

If automation is SoftLayer's first goal, then giving customers total control is its second. For example, if an IT department

apps can still be developed and tested on outside resources.

"It's really going to come down to the nature of the application you're hosting and what sort of requirements you have related to that," says Karidis. "The requirements could be internal rather than anything others are mandating. But I would say that if you've got a Web-facing app, you need to have high availability and the ability to scale. That's a great situation for us to host."

Better Today & Tomorrow

Of course, there are other hosting options, both internal and outsourced.

cloud computing and dedicated servers—"just a raw OS on bare metal." Different workloads will be better suited to one environment or the other. For example, high-speed, I/O-oriented data belongs on dedicated hardware, where there's no hypervisor to slow transactions down. Web tasks are probably better suited to virtualized environments that can be dynamically adjusted based on load.

"Our goal," says Day, "was to assemble a solution that lets customers pick and choose the model that makes the most sense for them, not just today but with the right architecture to scale and affordably meet their needs going forward."

A Selection Of SoftLayer Solutions

CloudLayer Computing

Public, private, or bare-metal cloud computing instances that let SMEs massively scale their computing abilities within minutes.

CloudLayer CDN

Content delivery network solution that distributes content quickly and easily, reducing latency and traffic jams.

CloudLayer Storage

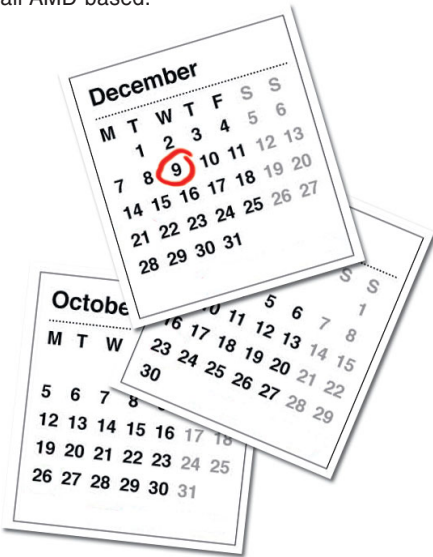
A secure, cloud-based storage system that ensures fast access to stored data from a variety of devices, including PCs, BlackBerrys, and iPhones.

Windows Mobile Phone Sales Drop In Third Quarter

According to Gartner, sales of smartphones running on the Windows Mobile platform saw a 20% drop during the third quarter. Overall smartphone sales rose by 13%. The newest Windows Mobile operating system, Windows Mobile 6.5, was released in October, which was not soon enough to affect the third-quarter sales. The release of Windows Mobile 6.5 prompted many analysts to predict a decline in sales for Window Mobile in the third quarter, but many were still surprised just how dramatic the decline was. Windows Mobile 7 is due out next year.

Top 500 Supercomputers Named

The TOP500 Project released its latest biannual list of the top 500 supercomputers in the world, with Jaguar, an AMD-based Cray XT5 system located at the Oak Ridge National Laboratory, taking the top spot. The previous leader, an IBM supercomputer called Roadrunner, moved to second place, with another Cray XT5 rig called Kraken rounding out the top three. The TOP500 Project notes that this edition's entry level moved up considerably from 17.1 teraflops per second to 20 teraflops per second as processing technologies continue to improve in speed. Also of note is that 402 out of the 500 systems employ Intel processing architectures, although the top three systems are all AMD-based.



Time Warner Announces Date For AOL Spin-off

Time Warner and AOL announced that they will officially separate on Dec. 9, with regular trading of AOL stock to begin Dec. 10. As part of the spin-off, on Nov. 27, Time Warner shareholders of record will receive one share of AOL stock for every 11 shares of Time Warner they own. The separation brings to an end a merger that began in 2001, and that is widely seen as an error on the part of Time Warner. By spinning off the struggling Internet company, Time Warner hopes to regain lost profitability; AOL plans to focus on online media content and display advertising under the leadership of CEO Tim Armstrong.

Microsoft Claims 64-bit Windows Safer Than Ever

According to a recent blog post from Microsoft's Malware Protection center, 64-bit versions of Windows operating systems are less prone to attacks than their 32-bit counterparts. The claim is based largely on information gathered by the Malicious Software Removal Tool installed with Windows; according to the tool, 32-bit WinXP is 52% more likely to be infected by malicious code than 64-bit WinXP, and 32-bit Vista machines are 65% more vulnerable to attacks. Some analysts disagree with Microsoft's assertion, claiming that it's because of 64-bit systems' smaller user base that the systems are less vulnerable, as hackers are more interested in attacking widely used 32-bit systems because they offer more potential targets.

CASE STUDY

Automated Data Extraction & Reporting

Medical Discount Provider Speeds Data Delivery With Network Automation's AutoMate

by Sue Hildreth

FOR PRIME LIBERTY, a Toronto-based outsourcer of medical savings programs, data delivery is a core part of its business. So when the company found that its manual process for formatting and preparing data reports for customers was taking up more and more time each day, it began looking for a software product that could automate the task.

Prime Liberty contracts with wholesalers that represent doctors, dentists, chiropractors, and other medical providers who are willing to offer discounts to subscribers—typically uninsured consumers who don't qualify for government healthcare programs and who pay a monthly fee to receive these discounts. The wholesale benefits providers who sell through Prime Liberty receive daily reports on its membership and the services purchased. Preparing those daily reports is not a particularly complex task, but until a year ago, it was a task that required staff to spend two hours every morning hand-formatting the data. That's because Prime Liberty's clients needed their reports in different formats, depending on the database they used and other factors, while all of the information on the members is stored in a Salesforce CRM database.

"We deal with six to eight vendors, and each one has a different set of reporting requirements," says Randy Sicat, Prime Liberty's COO. "One might require 256-bit encrypted zip files; others won't but may have different naming conventions. They all have their reporting databases, some of them custom ones, and we have to adhere to their formatting requirements."

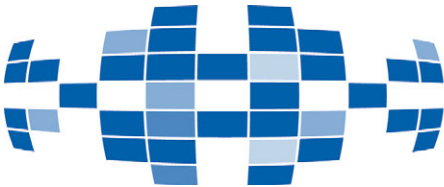
Another issue for Prime Liberty was the company's plan to expand its business into other types of discount services programs, such as for gas stations, grocery stores, restaurants, and retail shops. Any expansion of the business would mean an expansion of the time required to hand-format client reports. That could increase the workload from two hours per day to eight or more, potentially requiring Prime Liberty to devote one or more employees to doing nothing but data formatting.

Sicat decided that the situation called for an investment in automation and began

looking at applications that could both translate data into various database formats and do the extraction and formatting on a preset schedule, with no attention from a human worker. The hope was not only to speed the delivery of the daily reports but also to free up IT staff for more important projects.

Shopping For Process Automation

One of the requirements of any data translation and transformation tool is an ability to extract and convert data from Salesforce. It also had to be able to translate the Salesforce data into whatever



NETWORK AUTOMATION

requirements the customers needed, meaning it had to have support for a wide range of databases and custom database formats. Salesforce itself does not provide any data translation tools, although some of its partner developers sell translation tools.

Prime Liberty, however, had a fairly long list of requirements that it needed, so the company first considered having an outside developer create a custom conversion program. However, the price that the contractor quoted for the work—about \$10,000 to \$15,000—was considerably more than Prime Liberty was willing to pay. Other options the company considered either didn't combine the scripting and scheduling functions that it wanted or were simply too complex for Sicat. "It didn't make sense for me to invest in a tool to write complex code," says Sicat.

So when a colleague suggested to Sicat that he look into Network Automation's AutoMate, a business process automation tool that cost less than \$1,500, Sicat was interested. AutoMate employs scripts to automate tasks such as batch file processing macros and other executables. The solution is aimed at midsize companies that have complex scripts and custom coding or multiple human-to-computer processes that could be integrated and automated into one computer macro.

Sicat and others in IT liked the nontechnical look and feel of the product as well as its drag-and-drop, plain-English interface, which lets employees format files using commands such as Move File, Find and Replace, or other common actions including terminal emulation, encryption, running embedded scripts, or automatically transferring files to outside recipients via FTP. The software comes with 230 prebuilt actions that can be assembled sequentially in a task-building window to create a small program without the need to write code. To create an automated formatting process, an employee assembles several commands into a task building window. After the sequence of commands has been compiled, an error detection function in AutoMate highlights any bugs or incompatible commands.

It took Sicat about a day to learn the basics of using the program and to compile an automated process for one partner. He was able to compile routines for the other seven partners the next day.

Plans To Further AutoMate

Prime Liberty's daily membership reports can now run on their own, without help from an IT employee. The AutoMate process takes the daily updates from Salesforce and handles all needed formatting changes. The Task Administrator lets employees schedule the processes that need to run and centrally monitor them for problems.

"It's helped us out a lot to have a completely automated sequence as opposed to having someone sit and do a very tedious job," says Sicat. "We expect it's going to do a lot more for us, as there are a lot of processes here that could be automated."

Automating the membership updates is saving Prime Liberty close to 10 hours each week in IT manpower, and the company is also looking at other processes that could benefit from automation. One that is high on the list is billing. The company plans to use AutoMate to reformat and, if necessary, combine daily credit card transaction files before submitting them to its merchant processors. Another plan is to automate the delivery of commission payments to Prime Liberty agents.

"We have agencies that sell our products and we pay commissions to them on a weekly basis. That's one of a whole lot of processes that could be automated," says Sicat, adding that he still has a lot of learning to do about how the software works.

By automating more of these kinds of processes, Sicat estimates the company can save significantly on labor and speed service delivery for its customers. It will also allow Prime Liberty to add customers and partners without adding greatly to its administrative overhead.

Sicat says the company expects to add five to 10 new wholesale vendors to its existing eight in the near future and also plans to expand into other types of consumer discount programs. All of these new customers will have their own reporting and administrative requirements.

"It's growing on a daily basis as we're moving into more customer relationship management. We've got a few big ones in the pipeline right now," says Sicat, adding that he's "barely scratched the surface" of the types of tasks that he plans to automate down the road. ■

Network Automation AutoMate

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"It's helped us out a lot to have a completely automated sequence as opposed to having someone sit and do a very tedious job," says Randy Sicat, COO of Prime Liberty.

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Coping With Smartphone Anarchy

Tips For Managing Multiple Mobile Devices In Use At An Enterprise

by Drew Robb
• • •

MOBILE DEVICES HAVE FORCED their way into many organizations in a largely haphazard basis. Faced with mobile anarchy, many SMEs have initiated attempts to standardize the equipment. But it’s been an uphill battle, as most have been left with the puzzle of solving how you manage heterogeneous platforms whether they want to or not.

Key Points

- Adopt solutions that enable IT to inventory, manage, monitor, and audit multiple smartphone platforms.
- Without adequate security, mobile devices become the weak underbelly of corporate security.
- Smartphones have to be labeled as personal, corporate, or both, and policies should be set accordingly.

“This is clearly a real problem for a lot of organizations, given the proliferation of device types in use,” says Michael Osterman, president of Osterman Research, a company that expects employer-supplied mobile devices to double from 23% of the workforce in 2008 to 46% of the workforce in 2011. Thus, it’s clear that managing the mobile user experience is only going to become more important and complex as time marches on.

Effective management and support of mobile devices begins with a very basic step: achieving an understanding of what’s actually connecting to a network.

“IT must ensure they can quickly identify rogue applications and prevent them from accessing information on the corporate network.”

- Zenprise’s Ahmed Datoo

Once you have that inventory done, you know what’s needed in terms of platform support. Realize, though, that it takes lots of time to manage different devices and their related management systems. Help desk costs go up and so does the potential for downtime in the mobile infrastructure.

Therefore, it is rarely viable for an SME to support more than one device type simultaneously. So if there are multiple platforms already in operation, one possible solution is to work out what platform can be managed comfortably in-house and use a hosted service for all the others.

“IT may decide to manage BlackBerry in-house using BlackBerry Enterprise Server and let iPhone users connect

through over-the-air ActiveSync with AT&T support only,” says Osterman.

Personal Or Corporate

The popularity of smartphones such as the iPhone and BlackBerry Storm has caused quite the confusion in IT departments. As well as straining resources, the combination of both personal and corporate functions make it hard to draw a firm line in the sand between individual and company usage. Yet that issue has to be resolved in order to manage the devices.

“Companies must develop clear enterprise mobility policies and categorize smartphones as either corporate or personal phones in order to effectively manage technical issues [and] security issues and determine what data should be accessed,” says Jose Ferreira, security architect at Forsythe Technology (www.forsythe.com).

If they are categorized as personal, it eliminates a whole lot of support expenses, but employees still have to be taught how to secure their phones.

If they are labeled corporate, on the other hand, it will create more work. But there are clear advantages and disadvantages. On the plus side, it will allow for the implementation of stricter policies and greater security. However, there will be many complaints from employees who want to use their devices for personal purposes.

This strategy will, however, boost support requirements considerably. With every mobile platform added, the help desk has more to deal with. If it isn’t up to this task, a domino-like effect can occur.

“The longer it takes to solve issues, the unhappier mobile users become and the more IT managers’ reputation suffers,” says Mitch Berk, director of product management at BoxTone (www.boxtone.com).

He made it clear that SMEs tend to underestimate the burden on management. Each smartphone platform requires an entirely different set of support processes and knowledge. However, management tools now exist that simplify the management of mobile technologies.

“Enterprises are adopting solutions with the ability to automatically monitor, manage, and troubleshoot multiple smartphone devices, including BlackBerry, iPhone, Windows Mobile, and Palm platforms,” says Ahmed Datoo, vice president of marketing at Zenprise (www.zenprise.com).

Supported Devices

Osterman Research data indicates that 88% of organizations in North America currently support BlackBerry devices, 63% support Windows Mobile, 37% support Palm, 28% support iPhones, and 12% support Symbian.

Similarly, users are “demanding” or “clamoring for” BlackBerry (78%), Windows Mobile (47%), Apple iPhone (34%), Palm OS (25%), and Symbian (15%) devices.

Mobile Security

With mobile devices using core enterprise applications and having access to sensitive data, security becomes imperative. As mentioned earlier, an inventory is essential for good management. You have to know every device that is connecting to the

network in order to detect such things as an unauthorized mobile phone accessing critical corporate data.

IT managers, therefore, should certify smartphones before they are permitted onto the network. This inspection should check for viruses and ensure it is a secure device. As part of this step, it is a good idea to also analyze each mobile user’s device. Simple tools are available to verify and monitor smartphone health.

“IT managers should be able to, at any time, generate a complete inventory of all enterprise-connected devices to ensure they are certified and compliant with IT policy,” says Berk.

A major concern, of course, is the proliferation of rogue applications. Some of these may be perfectly harmless, though enough of them pose a minor or major threat to the enterprise. Again, mobile security management tools have to be deployed to detect and eliminate these applications as they are caught.

“IT must ensure they can quickly identify rogue applications and prevent them from accessing information on the corporate network,” says Datoo.

Like intrusions on other equipment, there are simple preventive steps SMEs can take to guard against security breaches. Today’s management tools typically enable IT to audit devices for third-party applications. In many cases, users will be surprised by what was actually lurking on their iPhone or BlackBerry, as even with strict corporate policies, users could download applications without knowing they might be a security risk to the corporate network, says Datoo. **P**

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Boosting Energy Efforts

Strategies For Taking Energy Efficiency To The Next Level

by Christian Perry

MAKING A MOVE TOWARD energy efficiency is on the minds of many IT professionals. In fact, CDW’s 2009 Energy Efficient IT Report indicates that 52% of organizations actively working to reduce energy consumption have cut IT energy costs. Although this initial effort is underway

Key Points

- Establishing a baseline can help data centers determine how much energy currently is in use and help in identifying areas where further energy cutting can be applied.
- Shutting down unused servers, consolidating servers, and using data reduction can all help to advance energy efficiency in the data center.
- Consistent energy measuring and management is critical for identifying problem areas and forecasting future energy usage.

and yielding results, there remains plenty of opportunity to reduce energy consumption even further. Part of the challenge is buy-in from the responsible parties in the organization.

The CDW report notes that 57% of organizations that ask IT to reduce energy costs have cut IT energy costs by 1% or more. Similarly, 60% of organizations that assign an IT advocate for energy efficiency have defined programs to manage and reduce energy use. Those that do buy in to an organization-wide energy program discover plenty of areas to cut energy costs, including the type of equipment selected for use in the data center, how that equipment is used, infrastructure tweaks, virtualization, and other opportunities.

Take A Look Around

According to Rob Ober, a fellow at LSI (www.lsi.com), it’s important to establish a baseline and understand where energy is consumed in the data center. This baseline should encompass equipment such as servers, networks, and storage as well as cooling and conversion. For example, he says that server centers often utilize their servers at an aggregate of 15%, which results in plenty of wasted power. “The first step to optimize energy costs is to fully utilize what is already there,” Ober says. “Perhaps more important is to rationalize activity onto the newest, most-efficient machines and take the step to

obsolete the least-efficient equipment, no matter how old. Once a baseline is established, identify the low-hanging fruit for the quickest, least-costly items to reduce energy costs.” Using older, less-efficient equipment can’t always be avoided, but when making new purchases, it’s wise to opt for equipment that can cut energy costs but still provide optimum performance. Douglas Alger, IT architect for physical infrastructure at Cisco (www.cisco.com) and author of “Grow a Greener Data Center,” notes that focusing on energy efficiency when making IT hardware purchases is one of the easiest and most effective approaches, because the less electricity drawn by the server, storage frame, or networking device, the less that has to be conditioned, cooled, distributed, converted, and delivered throughout the data center. The low-hanging fruit referred to by Ober includes a variety of actions, including arranging equipment in hot aisle/cold aisle configurations; powering down equipment that does not need to be used 24/7; consolidating multiple application servers onto shared, single servers; and taking a data reduction (such as deduplication) approach that’s appropriate for the data center’s backup and archival needs. Alger adds that sealing gaps in the data center will help to improve air distribution and give the cooling system a break (which in turn saves on energy costs). He recommends filling unoccupied cabinet space with blanking panels and covering floor tile notches where patch cords or power cords are passed through. He also advises that data centers observe good cable routing practices to reduce clutter, decommission hardware that is nonessential or poorly utilized, and install timers and motion sensors on lights.

consider the challenges of sustainability. In fact, potential future legislation around a carbon cap-and-trade system would mean that data center managers need measurement and reporting strategies in place to support their carbon footprint initiatives as well as controls that support their measurement requirements—perhaps as soon as 2010 or 2011, he says. Another more involved method revolves around power itself. Coutinho recommends investigating any cost-saving programs offered by power companies, as the CDW report found that 63% of IT professionals with access to utility rebates or incentives say that these incentives are applicable to the specific IT investments their organizations are planning. Further, 92% of those professionals say that utility rebates or incentives are a significant factor in their organizations’ IT purchase decisions.

Get Virtual

Many experts agree that virtualization continues to be an effective answer to rising energy costs. The CDW report found that 46% of IT professionals have implemented or are implementing server virtualization. “By having a virtualized pool of computing resources rather than one piece of hardware doing a single job, you can accomplish more computing with fewer physical machines. This results in less demand for power and cooling and therefore, less energy consumption and costs,” Alger says. However, CDW’s Coutinho warns that data centers that jump into virtualization projects rarely decommission older servers and in turn actually increase their power and cooling footprint. As such, he recommends formulating a plan, getting the buy-in from upper management, assigning a project manager, and setting consolidation deadlines. “It is important to commit to a project and hold the project manager accountable if it is not done with the desirable results,” he says.

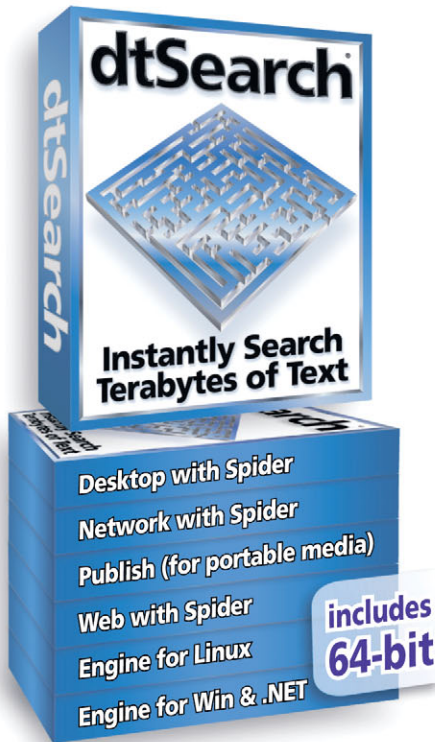
The Next Level

Moving to the next level of energy efficiency can take some effort, but the payoff can be significant for years to come. Herman Chan, director of Raritan’s Power Management business unit (www.raritan.com), recommends using a measurement and management system to help understand power consumption and environmental data at multiple points in a data center facility. “This can be achieved through intelligent rack PDUs with built-in outlet-level power monitoring and local rack temperature/humidity monitoring or deployment of instrumentation technologies at the UPS, subpanels, and other upstream feeders,” Chan says. “Having this instrumentation allows you to understand PUE [Power Usage Effectiveness] in the data center and see the impact of changes to the facility.” Nathan Coutinho, a solutions manager with CDW, agrees, noting that the big picture is crucial. “Businesses should put an energy management system in place to monitor power consumption and airflow. The [CDW] report found that organizations that do this are more likely to have effective strategies to manage energy consumption. Over the years, it is important to analyze the data and watch for trends,” he says. According to Chan, this need for energy measuring and managing could even become a requirement in the future as data center owners are increasingly pushed to

Energy-Saving Tactics

- Plenty of opportunities exist for a data center to take its energy-saving efforts to the next level. Rob Ober, a fellow at LSI (www.lsi.com), offers the following tips.
- Purchase only energy-efficient equipment. This includes Energy Star-rated servers and power supplies rated at more than 90% efficiency.
 - Develop and implement a tiered storage strategy. Make sure the most critical data is placed on high-performance, high-power storage systems and that less-important data is stored on lower-power systems.
 - Establish policies that include data retention and elimination.
 - Investigate operating at a higher ambient temperature. This isn’t always possible and requires careful isolation and management of cold and hot aisles.
 - Keep in mind that advanced, high-performance storage can raise server utilization considerably, in turn leading to more CPU usage per watt.

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User Desktop Settings

Playground Or Lockdown?

by Curt Harler

• • •

JUST HOW PERSONAL can an SME allow a worker’s computer to be? Experts agree that there is a broad continuum of allowable customization, and all say that defining that continuum is a job too many SMEs neglect. However, it’s one that they should focus on.

“If there is no standardized Desktop, then the productivity of both the users and IT will go down,” Nick Cavalancia, vice president of Windows Management for ScriptLogic (www.scriptlogic.com), says.

Key Points

- Get on top of the situation early and stay on top of it.
- If possible, strive for a business-centric policy, if not a business-only policy.
- All users should be configured without admin rights.

He notes that what is good for IT will probably be annoying to the user and vice-versa. “It’s like a scale—there needs to be a balance between what makes things difficult for IT and the user.”

Cavalancia says that where possible, SMEs should strive for a business-centric policy, not a business-only policy. He notes that many SMEs will migrate to Windows 7 soon, and that change presents a perfect opportunity to implement a Desktop policy. “Most organizations don’t do anything,” he says, “but there is no excuse not to do something today.”

Implementation

Start by defining who needs access to what. A third-party program will be the most granular in this area, which, for example, allows only people in payroll to access payroll data. But what about access to a CD drive? It might be okay for some workers to burn their own CDs. Others might only be allowed to read them, while another group might not have access to CDs at all.

“It’s better to set the ceiling low and, if people bump their heads and can’t do their job, then make exceptions,” Cavalancia says. He would recommend building a plain-vanilla OS and adding various flavors to it. “Use a Desktop management platform to define today’s standard for configuration of the machine,” he says. Then add applications. That way, IT has a uniform, basic OS and can add today’s applications to it.

Other things to consider are whether employees should be allowed to self-maintain certain system settings, such as defragging the hard drive. Additionally, many employees need to be able to self-install approved software and ActiveX controls.

An SME should then create a pilot group, so IT can understand what users need and ensure that user productivity will not be affected.

“The big thing is to plan it,” says Dave Ortin, supervisor of network operations at Walworth County (Wisconsin) Government. He spent much time integrating the

Active Directory and the policies they would enforce at the Desktop level. That was followed by a small departmental test. “The result was we had no issues at all with deployment,” Ortin says.

Administrator Rights

SMEs can increase security and decrease IT costs by enforcing Desktop settings. “One of the most widespread corporate security concerns is having users configured to run with local administrator rights on their Desktops,” says Scott McCarley, director of marketing at BeyondTrust (www.beyondtrust.com).

For example, administrator rights can be used to alter a standard Desktop image, change security settings, or install unauthorized software. He notes that most malware and spyware requires administrator rights in order to install.

McCarley says 92% of all critical vulnerabilities disclosed by Microsoft in 2008 can be mitigated by eliminating administrator rights, and by removing administrator rights, SMEs can improve security and decrease costs.

A recent Gartner report titled “Organizations That Unlock PCs Unnecessarily Will Face High Costs” found that organizations that remove administrator rights from users on a well-managed Desktop can reduce the total cost of ownership per Desktop by more than \$1,200.

McCarley is adamant that users should not have the final say when it comes to the security decisions for their Desktop. “A user should not be able to install unauthorized software, configure certain settings, such as the firewall, nor should they determine which processes can run with elevated privileges,” he says. “These decisions should be made by the IT department.”

“All users should be configured without administrator rights,” McCarley continues. When a user logs in to a Windows computer, they can either log in with administrator rights or standard user rights. With administrator rights, a user has complete control over the computer. A standard user is granted no special privileges and does not have administrative control over the computer. With administrator rights, a user can install any software or change any security setting they wish.

But for most businesses, he says allowing users to put their puppy’s photo on the screen saver or to install their own shortcuts is reasonable.

“The most reasonable place to start is to at least define the business needs,” Cavalancia says. Have a way to push out Registry tweaks, mappings, and a standard Outlook profile.

Lock It Down

Lockdown saves a lot of help desk time. Even if it takes only five minutes to discover that a Desktop icon was deleted and Word did not really disappear off the computer, allowing the user too much freedom can create situations that become a time-sink for IT.

According to Cavalancia, some enterprises will require a strict lockdown of the Desktop. A school district is a good example. The purpose of the school’s computers is to get schoolwork done. There is no reason for any student to customize backgrounds or add applications. “Lock it down and allow only the applications you need,” he advises.

“We needed to lock down PCs so we were assured we wouldn’t be running rogue applications or viruses, and we wanted to establish a baseline look for every PC in the County,” says Ortin, as two techs maintain more than 600 Desktops county-wide.

“We don’t allow any end user or power user to have administrator rights at the PC level,” Ortin continues. “We dictate where Word will point. PCs have a standard background, Registry keys, and proxy settings. We’ve defined the home page and a standard look and feel for every PC in County government.”

Final Considerations

Just how much freedom an SME gives its workers in setting their own Desktop appearance will depend on the company and its industry segment. In some cases, allowing a degree of freedom can be a boost to employee morale. In others, it will put the company in jeopardy of malware or spyware attack.

Ortin and other experts say it is not difficult—or even expensive—to control the situation. They note there are two basic approaches to Desktop lockdown: a white list or a black list. The first establishes permitted applications. The second forbids applications, restricting or denying use of anything not approved by IT. Both methods work, but much will depend on the industry. In a hospitality setting, for example, where many people use the same computer 24/7, there is no need for any individual to customize the look or settings of any machine. Here, only IT-approved icons and programs should appear on the screen.

But in an office where a computer is assigned to each user, allowing a personalized look or even applications is probably reasonable.

All agree that it is key to set user expectations early in the game so everyone is on the same page and workers do not become concerned that the business has lost trust in them as workers or is depriving them of exercising a “right” to customize their own Desktop appearance that really should be the province of company management. **P**

Intel & Numonyx Detail Phase Change Memory Advancement

Intel and Numonyx, a company Intel formed with STMicroelectronics in 2008, recently detailed a breakthrough in their combined research into nonvolatile PCM (phase change memory) by demonstrating a 64Mb chip that allows for stacking multiple layers of PCM arrays on one die. The advance could lead to larger storage capacities in a smaller space with far less power consumption vs. NAND-based memory.



The companies are scheduled to present a paper at the International Electron Devices Meeting Dec. 9 concerning the progress, which, according to a release, involves a “vertically integrated memory cell” called PCMS (PCM and switch) made up of “one PCM element layered with a newly used Ovonic Threshold Switch [OTS] in a true cross-point array.”

The companies state that the “ability to layer or stack arrays of PCMS provides the scalability to higher memory densities while maintaining the performance characteristics of PCM, a challenge that is becoming increasingly more difficult to maintain with traditional memory technologies.”

Resistant To Errors

Rob Enderle, Enderle Group principal analyst, says PCM-based memory is “very resistant to the kind of errors that plague flash and conventional memory and much faster than flash. Speed and reliability are huge advantages for the enterprise.” Consumer-wise, Enderle says, price points aren’t what are needed for mainstream adoption, but “high-end flash-based cameras are a natural first target for this memory” due to speed advantages. In data center use, Enderle says, PCM could mean faster speeds with less investment required for error checking and possibly better security methods.

Numonyx spokesperson Mark Miller says, “There’s a lot of excitement around the transition to SSDs, but very few who are taking a hard look at the technology behind SSDs and asking the tough questions.” Although considerable system-level work is going into deploying SSDs, Miller says, the question is, “Are we all sure the designs will apply beyond a generation or two?” A primary concern of SSDs in the enterprise is “how long the technology will reliably perform at the levels and cost you need today and in the future.”

“Much has been said and written about PCM, but what is interesting about PCM is that retention is decoupled from endurance,” Miller says. “This means that if we cycle a PCM memory device a million times or just one time, the data retention will be identical.” Miller says this characteristic requires a fundamental change in how we think about using and managing the technology.

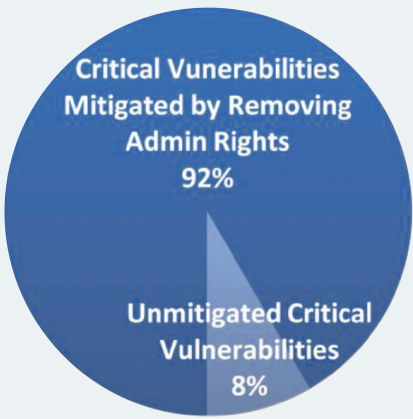
“There’s a very promising alternative that should allow the industry to continue the transition from HDDs to SSDs with confidence,” Miller says.

by Blaine Flamig

Why Should You Remove Administrator Rights?

In a report conducted by BeyondTrust in early 2009, the company explored critical vulnerabilities reported by Microsoft over the course of the previous year. It was determined that the vast majority of Microsoft critical vulnerabilities could be mitigated by removing administrator rights.

SOURCE: BEYOND TRUST



OPINIONS

INFO-TECH • INSIGHT

Laptops: Still Getting Stolen, Still Costing Organizations

About two and half years ago, I wrote a column for Processor entitled “Enough With The Stolen Laptops Already!” It posited that the theft of laptops—and with them, confidential data records—was on the rise and that something needed to be done. Since that time, not only has the problem not gotten better, it has definitively gotten worse.

How Much Really Goes Missing?

The annual Computer Security Institute/FBI “Computer Crime and Security Survey” shows that, since 2005, the percentage of organizations that indicate they have experienced laptop theft hovers right around 50. In simpler terms, half of all respondents indicate they have experienced at least one incident of laptop theft.

In and of itself, this isn’t surprising—laptops are small and easy to steal. The more serious problem lies not in the loss of the devices, but in the loss of the data these devices house. The Open Security Foundation (or OSF, a not-for-profit organization with nothing to gain from fabricating numbers) tracks all reports that pertain to data breaches. According to its data, 21% of all breached records are the result of stolen laptops.

This data in most cases comes from voluntary reporting; currently, few government or



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industry bodies mandate breach notification. Given that most enterprises, just like most individuals, don’t like owning up to mistakes if they don’t have to, the problem is likely much, much worse. So how bad is it really?

Converting Percentages To Counts

According to the OSF, 2.7 million data records were exposed as a result of laptop theft in 2006. The number jumped to 3.7 million in 2007 and held essentially steady at 3.6

million in 2008. By the end of July 2009, 2 million records had been lost as a result of laptop theft. So over the span of just three and a half years, stolen laptops had accounted for the loss of an astounding 12 million data records—and all of that on just 482 individual reported thefts.

If we’ve established that half of all organizations lose at least one laptop a year, then a lot more than 500 laptops have been stolen since the beginning of 2006, and a lot more data records have been exposed.

Converting Counts To Dollars

So what does a lost laptop cost? A recent survey and report commissioned by Intel determined that average impact was \$50,000, a big but hardly “the sky is falling in” number. Digging deeper, however, reveals that the cost is probably markedly higher.

The study breaks the data in quartiles and in doing so shows that in most cases, organizations value laptop loss at little more than the cost of the device, plus some associated downtime. The first three quartiles report an average loss of between \$2,000 and \$4,000 while the fourth quartile calculates the value as \$186,042—a staggering difference and a number where the sky might be starting to fall in a bit.

So, what’s the difference between these groups? It can only be that the respondents in the fourth quartile experienced data loss they were willing to report and for which they could determine the cost. Given the other numbers we’ve seen, it’s unlikely that only such a small portion of the respondents experienced data loss. It’s more likely that the first 75% of the respondents were either unwilling to indicate, or unable to value, their data losses.

Even if the lost data is determined to be value-less, the cost of notification—and breach notification laws are just around the corner in many cases—can be significant all by itself.

What Can Be Done?

The measures that organizations can, and should, adopt haven’t changed in the past 30 months, but given that the problem hasn’t either, they bear repeating:

Don’t issue the laptop. The best way to ensure laptops stay safe is not using them. Some employees need the flexibility of working anywhere, but laptops are issued too easily. If it’s a convenience, not a necessity, provide a desktop instead.

Secure the laptop. If a laptop is necessary, make sure it’s physically protected whenever possible. Supply a cable lock and mandate its use. And don’t issue obvious computer bags; they’re a dead giveaway to thieves.

Limit the data. Because the true concern is the data rather than the device, restrict what information is allowed to walk out of the door in the first place. This means data must first be classified to control what is, and is not, allowed on the laptop.

Encrypt the data. If data is allowed onto laptops, encrypting it is essential. That way, when the laptop is lost, the data isn’t put at risk. Free encryption has been part of Windows since Win2000, so there’s no reason for the enterprise not to use it.

Wipe the data, track the laptop. Assuming the laptop is lost, steps can still be taken. Solutions exist that can remotely wipe the data and locate the laptop. They have limitations though and so shouldn’t be relied on as the only defense.

FROST AND SULLIVAN

Smartphones To Deliver The Next Wave Of Computing

On April 22, 1500, after a journey that lasted a couple of months, Portuguese navigator Pedro Álvares Cabral discovered Brazil, opening a gateway to the New World. But it was a purely accidental finding, because the commander was trying to retrace Vasco da Gama’s route to India (discovered in 1497), but in the end sailed so far west of the coast of Africa that he accidentally crossed the Atlantic and instead found Brazilian land.

Perhaps Cabral’s accidental finding exemplifies how smartphones are increasingly being utilized in new ways as they make their way from being primarily an enterprise segment to a mainstream consumer market opportunity. Smartphones characterize the next wave of computing, leading to a variety of novel and richer computing experiences to both consumer and business subscribers by enabling them to do more things “on the go” in a portable fashion.

With a smartphone, users are able to connect and communicate (email, IM, social networking, rich communications messaging); interact and collaborate (blogging, Twitter, Facebook, Linked In); navigate the Internet with the same richness of a desktop; be entertained (audio/video clips, picture sharing, YouTube, games); search for locations (LBS, local searching, mapping, directory services); transact (search, buy, do personal banking, shop); organize (calendar, presence-enabled address book, PIM, notes); get up-to-the-minute info (traffic or weather alerts, stock

moves); be mobile (corporate email, mobile PBX extensions, sales force automation); and find new ways to increase their productivity during any downtime they might have.

Transformational Shift

The advent of the smartphone represents a transformational shift, as it converges four technology segments (mobile handsets, consumer electronics, Internet, and PC/computing) that have also gone through rapid successive innovation waves. Smartphones also deliver users a brand-new quality of experience, as they bring together communication, computing, and content all in a single device with the added convenience of being omnipresent because of their portability. More importantly, a smartphone can deliver formerly discrete media in a single terminal that can eventually become the main touch point through which consumers navigate the Web, answer emails, listen to music, watch video clips, or perform any number of other tasks.

Given Moore’s Law, newer designs, and price-volume curves, smartphones are becoming increasingly more sophisticated, with faster processors; multiple radios (supporting 3G, 4G, Wi-Fi); high-resolution display; QWERTY input (touch screen or keyboard); higher-capacity memory and SD cards; better barriers (sealed or removable); GPS; Bluetooth; high-res cameras; and several other features such as address book integration, email/Web/phone integration, ambient light, and accelerometer.



AUTHOR: Ronald Gruia is program leader and principal analyst at Frost & Sullivan, covering emerging communications solutions.

Send your comments to frostandsullivan@processor.com

Market Drivers

This year, we witnessed the continuation of an historic point of inflection that is signaling the change of the smartphone from a niche “gizmo” to a more mainstream device, as noted by the increased global smartphone penetration from about 3% of mobile phone users in 2007 to about 6% of the total wireless handset base this year and an expected user base of more than 15% of total mobile users by 2012. Several factors are the catalysts behind this growth, including:

- Successful launches of new smartphones
- Better access, with the proliferation of faster 3G and 3G+ networks, coupled with

the increased operator competition for data services

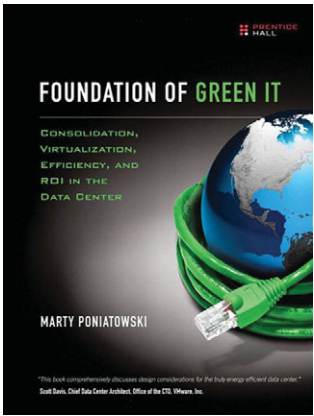
- Higher demand of mobile email, browsing, and smartphone applications by the consumer/prosumer segments
- Lower pricing for both the smartphone sets and the data services, which results in achieving the “sweet spot” of the market
- Advances in handset technologies that create a more compelling end-user experience
- Increased availability of third-party mobile apps on more open mobile application platforms
- Growing mobilization of the enterprise

Where open models are being promoted, smartphone users have easy access to selected third-party applications and the mobile Web, supported by increasingly more affordable flat-rate data plans. Some operators are also forming alliances with a host of well-known brands such as YouTube, eBay, and MySpace to preinstall popular third-party applications on select smartphone models. Certain services will even be integrated with devices. With this strategy, operators are creating a customer value proposition based on reach, scale in product development, and customization encouraged by simple, transparent pricing models.

Mobile data services that are being stimulated by the fast adoption of smartphones and data cards have been a critical growth driver for wireless carriers, compensating for secular pressure on voice revenues. For instance, in the third quarter, U.S. operators reported about 30% year-over-year growth in mobile data revenues compared to flat-to-down revenues attributed to voice services. Despite the recent growth, Frost & Sullivan data suggests that the best is yet to come for smartphones, with many years of strong growth driven by new features and lower prices.

DATA CENTER MANAGEMENT

BOOK REVIEW



Strive For Efficient, Cost-Effective IT

Foundation Of Green IT: Consolidation, Virtualization, Efficiency, And ROI In The Data Center

Author: Marty Poniatowski
Price: \$44.99
Publisher: Prentice Hall
Format: Paperback, 352 pages

by Kurt Marko

GREEN SEEMS TO be the all-purpose adjective for anything novel, innovative, or just plain good in IT—a 21st century counterpart to the '90's dot-com 'e' prefix (e-commerce, e-business, e-services). Unfortunately, like that overused modifier, the definition of green is malleable, with marketers festooning it on everything from disruptive technologies that improve efficiency to PC recycling campaigns.

Perhaps seeking to capitalize on the industry's green preoccupation, Marty Poniatowski, author of "Foundation of Green IT," adopts the term to encompass several IT trends. As clarified in his subtitle, these are data center consolidation, server and storage virtualization, and hardware efficiency, all of which can yield great returns on IT investments. His goal is "to think about efficiency in information technology from a global standpoint. This means looking at all technologies in the data center and how they can be made more efficient."

Far from an abstract, theoretical treatment of methods to lower IT's carbon footprint or otherwise reduce environmental damage, Poniatowski has created a step-by-step handbook for IT practitioners seeking to update their dated, inefficient, legacy infrastructure to the standards required of a modern information utility, all without busting notoriously tight budgets.

Drawing upon his more than 20 years of experience as a solution architect and technical consultant, the author presents case studies, architectural details, planning, design tools, and ROI calculations for data center improvement projects. Sections of the book, which cover everything from servers and storage to networking and facilities, follow a similar pattern: Starting with an overview of an inefficient environment, they go on to introduce specific planning and analysis software tools useful in understanding the current state and designing alternatives. Other chapters describe an optimized design, with each section concluding with an implementation plan outline and sample ROI analysis.

Hottest Trends

As the subtitle suggests, "Foundation of Green IT" begins by examining one of IT's hottest trends: server consolidation through virtualization. As the author's purpose is to provide concrete, practical examples, the book doesn't discuss abstract virtualization technologies but illustrates how market-leading VMware can be married with blade servers to achieve an 11-to-1 reduction in servers, 90% power and cooling savings, and almost 400% ROI. This is a handbook, not a narrative, so the chapters are full of screen shots and tabular output.

The next section covers backup, recovery, and archiving, again focusing on designs and technologies, such as shared SAN arrays, VTLs, and deduplication, that enable consolidating a hodgepodge of discrete backup servers and their local tape drives into a centrally managed, enterprise-wide archiving and disaster recovery environment. The author is less ambitious when tackling the network environment but, following the consolidation theme, provides an example of how an accumulated rack of small 10/100 edge switches can be collapsed into a single-switch chassis with a high-performance 10GbE backbone.

The book concludes with a section of miscellaneous green topics ranging from database consolidation to PC power management, but the most substantial chapter outlines data center design techniques for improving power efficiency, airflow, density, and cabling.

Working through "Foundation of Green IT" is like watching over the shoulders of a team of experienced systems architects as

they attack a sprawling and deteriorating IT environment with their toolbox of technological tricks, analysis software, and accumulated wisdom to transform it into an efficient, scalable, and cost-effective IT factory. Those looking for a general survey and technical depth on various green technologies should look elsewhere, but for IT pros seeking a detailed roadmap for updating their stagnating, unmanageable infrastructure, Poniatowski has produced a practical and concise guide. [E]

KEY CONCEPTS

- Green IT is more than just power savings; it is about the myriad technologies and infrastructure designs that can make data centers more efficient to both operate and manage.
- The foundation of any green redesign entails infrastructure consolidation: of servers using virtualization, storage with large SAN arrays, backup and archiving through networked VTLs, and networks through high-density router and switch chassis.
- Although infrastructure consolidation projects involve significant up-front capital investments, detailed project plans, and non-trivial implementations, their ROI can be substantial—often several times the original expenditures.
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Processor Solutions Directory

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You can find more detailed information on these companies and the products they offer inside this issue.

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